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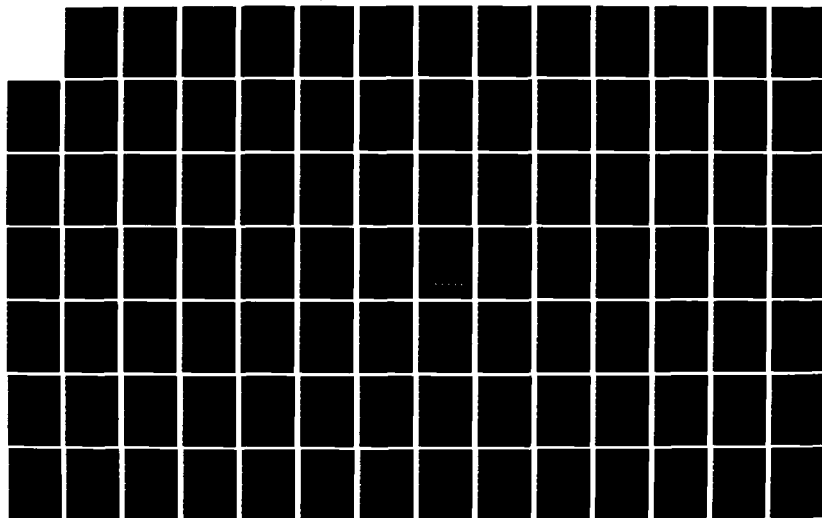
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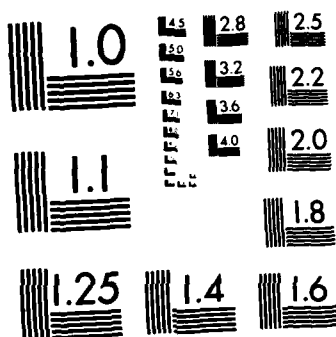
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AN EDUCATIONAL METHODOLOGY FOR
ENHANCING FAMILIARITY WITH UNITED
STATES AIR FORCE COMBAT LOGISTICS

Gurnie H. Handy, Jr., Captain, USAF
Ronald L. McCool, Captain, USAF

LSSR 44-83

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DEPARTMENT OF THE AIR FORCE
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AIR FORCE INSTITUTE OF TECHNOLOGY

Wright-Patterson Air Force Base, Ohio

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Certain developments since the end of the Vietnam War have given Air Force leaders cause for concern over a potential weakening of the war-fighting ability of the service. The authors offer evidence of that problem, then focus specifically on logistics war-fighting issues. After substantiating dual needs to continually relate logistics to war-fighting and also to avoid functional specialization, the authors suggest creating a combat logistics body of knowledge to address those needs. The primary research objectives include establishing a system for determining relevant combat logistics topics and proposing a Professional Continuing Education course syllabus on the subject. HQ USAF and AFLC provided over 80 suggested topics which the authors analyze with a matrix system. The matrix results show that qualifying topics are distributed fairly evenly among five major logistics functions, except for acquisition. Consequently, the authors recommend further research on that area, and in transportation. Matrix analysis also helps produce the ~~combat logistics~~ course syllabus contained in Appendix C. The authors conclude by reviewing problems with peacetime analytical thinking and by recommending the combat logistics course as a positive step toward building a war-fighting and readiness orientation.

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AN EDUCATIONAL METHODOLOGY FOR ENHANCING
FAMILIARITY WITH UNITED STATES
AIR FORCE COMBAT LOGISTICS

A Thesis

Presented to the Faculty of the School of Systems and Logistics
of the Air Force Institute of Technology

Air University

In Partial Fulfillment of the Requirements for the
Degree of Master of Science in Logistics Management

By

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Captain, USAF

Ronald L. McCool, BS
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September 1983

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This thesis, written by

Captain Gurnie H. Handy, Jr.

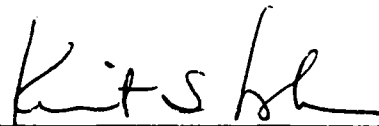
and

Captain Ronald L. McCool

has been accepted by the undersigned on behalf of the faculty
of the School of Systems and Logistics in partial fulfillment
of the requirements for the degree of

MASTER OF SCIENCE IN LOGISTICS MANAGEMENT

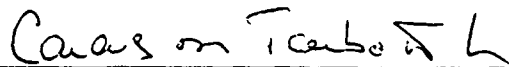
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This work represents an intense learning experience for the authors. Not only have we become more familiar with vital U.S. Air Force war-fighting concerns, but we have also learned something about the value of a scientifically rigorous research methodology. While we hope others find this product useful, we are confident that the project has enhanced our ability to render more valuable service to the Air Force.

We would like to thank the following individuals for their assistance:

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CHAPTER I

INTRODUCTION

Background

Several developments since the end of the Vietnam War have given Air Force leaders cause for concern over a potential weakening of the war-fighting ability of the service. First, many Air Force members with combat experience in World War II, Korea, or Vietnam have returned to civilian life, taking their useful perspectives with them. Second, with the exception of the 1973 Arab-Israeli conflict, the United States has not deployed men or equipment on a large scale for actual combat within the last decade. Third, the divisive nature of the Vietnam conflict ushered in a period of national reassessment for numerous military matters. In fact, by observing America's historical isolationism following previous wars, one might have forecast such a period of careful scrutiny of military programs. National priorities were refocused on domestic, economic, and social concerns requiring military members, in part, to become experts in the management of scarce defense dollars. Specific figures from the Air Force 2000 study underscore these phenomena of the 1970s.

The end of the Vietnam era brought an immediate reposturing of the Air Force to a peacetime status that was far below the pre-war level. During the 1970's, Air Force end strength was reduced 28 percent from 1965 strengths. The number of Air Force installations dropped 34 percent and the total number of operational aircraft fell 39 percent. At the same time, waning public support diluted the war-fighting orientation of the military and the war-fighting spirit of its people. In that peacetime environment and inflationary economy, cost management battles over military appropriations overshadowed the importance of our ability to fight and win wars [56:267].

One significant event in the late 1970s, however, served to at least partially correct this underemphasis on U.S. war-fighting ability. The Iranian hostage crisis signaled a threefold failure in the exercise of American national power. The military failure was most evident in the aborted rescue attempt. Less evident, but perhaps even more serious, were the intelligence and the diplomatic failures accompanying the rise of Ayatollah Khomeini. Since intelligence agencies gave little importance to anti-monarchical groups in Iran, Washington officials faced a diplomatic "Pearl Harbor" at the Shah's overthrow. They were ill-prepared to deal with the new Islamic Republic (10:142). These events certainly caused Americans to reflect on their war-fighting capability. A current text in American foreign policy notes that:

. . . it would not be amiss to interpret the election of Ronald Reagan as at least a limited popular mandate to restore America's declining power and diplomatic credibility abroad [10:133].

If the hostage crisis had been an isolated occurrence of world tension, recovery of the U.S. war-fighting perspective may have lost momentum. However, conflicts in the Falklands, Lebanon, Afghanistan, and Central America have kept U.S. defense issues very alive throughout the early 1980s. Further evidence of concern of U.S. defense can be seen in the increasing Congressional budget outlays for this function. While annual defense outlays increased little more than \$30 billion between 1975 and 1979, increases for the 1980 to 1984 time frame are projected at over \$100 billion (13:71). These developments clearly indicate a shift in the public mood for awareness and support of the armed forces, in general (56:268).

This shift in public mood appears to correlate with circumstances in the military also. For instance, "within the Air Force . . . recent trends point to a shift back to the war-fighting perspective lost in the 1970's [56:268]." Former Air Force Chief of Staff, General Lew Allen, introduced Project Warrior as a significant effort to improve the war-fighting spirit and outlook of Air Force people and increase their understanding of air war theory and practice (40:56). General Allen observed that in learning the art of war, Air Force personnel must be able to transcend immediate tasks and give "adequate attention to the war-fighting dimensions of possible future conflicts [56:268]."

Problem Statement

Perhaps nowhere is the attention to war-fighting dimensions more critical to the Air Force than in the field of logistics. In a general sense, it has been claimed that "tactics wins battles, but logistics wins wars [71:35]." More specifically, logistics provides the "muscle" for an air force to deliver its war-fighting potential (25:3). The U.S. Air Force may need to exercise its logistics muscle in different levels of conflicts ranging from low level contingencies to theater conflicts to the herculean challenge of global warfare (56:62). This strategy requires that our forces be capable of fighting at any level of conflict and be able to move quickly across the continuum of conflict.

Recognizing the importance of logistics, then, one could reasonably deduce from preceding issues that there is an ongoing need for the logistician to relate his activities to possible wartime scenarios and to maintain a combat mentality. In combat, the timely action of the logistician, whether it be spare parts delivery or avionics maintenance, may save lives. However, because many logisticians do not face "front-line" duties, it may be easier for them to adopt an "eight-to-five" mentality. Training programs should develop the logistician's sense of urgency now since in wartime his actions will affect those performing "front-line" roles. This interaction with weapons

operators must be positive and synergistic, especially since history has shown that the war-fighting spirit within the individual and the institution as a whole may spell the difference between victory or defeat in combat (56:270). Both the Vietnam and Afghanistan conflicts stand as evidence supporting this role of the war-fighting spirit.

Another ongoing need in the field of Air Force logistics concerns the impact of technology. Today's complex technological environment requires people to maintain complex weapons systems and also demands a higher degree of specialization in most career fields (56:268). This development poses the danger that logisticians may become "functional specialists" who "are expected to have little understanding of the role they play in the overall war-fighting equation [56:268]." A recent TIG Brief, for example, pointed out that at this time, transporters receive little, if any, training in understanding war plans and the planning process (24:00). To cure this lack of training, the TIG Brief encourages transporters to "maintain a close working relationship with base-level logistics plans personnel [24:10]," among other remedies. This specialization problem can even extend internally to a specific logistics discipline. One study of combat supply procedures noted the degree of specialization in the supply

system and recommended an alternative organizational structure under combat conditions (29:5,9).

Two needs, then, currently exist in the field of Air Force logistics: first, a continuing need to relate logistics functions to combat activities; and second, a commensurate ongoing need to avoid functional specialization. The authors contend that there exists a question as to whether these needs are being met adequately, particularly from an educational standpoint. Consequently, an opportunity presents itself to translate Project Warrior ideals into practical action for the Air Force logistician. Specifically, this research project proposes to create a body of knowledge entitled "Combat Logistics."

The Concept of Combat Logistics

Research projects of this nature normally include a review of literature on the subject, but this effort is attempting to initially define what "Combat Logistics" involves. Thus, the scarcity of literature using this terminology is not surprising. The literature searched by the authors did lend substance to the issues raised in this chapter and provided understanding to many potential combat logistics topics. However, expounding on that literature here would merely duplicate voluminous information more appropriately contained in other sections of this research paper such as the worksheet appendix. What does appear

useful is a good illustration of combat logistics from that literature to help clarify the concept.

There are many current initiatives within the Air Force Logistics Command (AFLC) which directly relate to combat logistics. One of the most crucial initiatives concerns the work of the Combat Logistics Support Squadrons (CLSS). AFLC's commander, General James P. Mullins, explains that:

Their principal purpose is to deal with crash- and battle-damaged aircraft and to provide augmented maintenance and supply support to operational forces overseas as well as in the CONUS. In fact, they have been expanding to include more capability in the aircraft battle-damage repair area [6:30].

The advent of this effort stems from a lack of numerical air superiority in European theaters and the need to record Yankee ingenuity. SMSgt James P. Roeder, Jr., of the CLSS said that in Vietnam "if an F-4 came back that couldn't be fixed, it was pushed aside and a team flown in from the States to repair it. It might take a couple of months. . . [23:1]." War in Europe would disallow such luxuries. AFLC's Brigadier General Monroe T. Smith explicated this reality as follows:

When you are behind the eight ball as we are with numbers of airplanes and numbers of anything you want to imagine, you can't afford to worry whether you patch this hole as good as new. All you want to do is generate sorties. If you've got a hole and it's between ribs and not affecting the structural integrity, all you want to do is put some duct tape over it and let that guy get off again and drop bombs. . . [23:8].

Besides duct tape, other combat maintenance solutions may include replacing broken hydraulic lines with flexible hoses, replacing broken control rods with broomsticks, and deployment of special depot repair teams for major maintenance to forward areas (23:8; 6:31). War veterans recognize these methods of valuable ingenuity, but unless the methods are recorded their benefits may be lost. To preserve those benefits, a technical manual on aircraft battle damage repair (ABDR) has been published and is now being updated (23:8).

CLSS members are not only retaining valuable war-fighting information, but are building their expertise through hands-on exercises and feedback from the British Falklands crisis. The hands-on exercises take place at Davis-Monthan AFB where F-105 and F-106 aircraft are shot up with captured Soviet ammunition and then repaired by specially trained CLSS members (6:30; 23:8). The feedback from the British reinforces the value of ABDR. As an example, the British found that metal patches over canopy bullet holes caused minor visibility problems, but in the absence of replacement glass kept the planes in the air (23:8). Undoubtedly, these experiences will assist Air Force personnel in implementing effective combat repair concepts.

The ABDR "quick-fixes" discussed here provide an excellent representation of combat logistics functions.

These procedures illustrate different operational concepts between war and peacetime, and this discovery of differences will be the most beneficial aspect of the research. Education on combat logistics issues will indeed enhance the awareness of war-fighting requirements for Air Force personnel.

Justification

One might pose two questions at this point: Will an educational approach sufficiently address the shortfalls identified in the problem statement (on logistics war-fighting mentality and avoiding specialization)? Also, are those shortfalls real?

As to the first question, it is true that formal educational programs provide only part of the solution. A true war-fighting spirit requires leadership emphasis on basic military values such as teamwork, positive discipline, and dedication. On the other hand, General Jerome F. O'Malley provides some good insight to the first question. Given the responsibility for the oversight of Project Warrior, he noted that "in the absence of another war, the lack of familiarity with war-fighting in the Air Force must be corrected through study and research [40:56]." Furthermore, although some combat logistics concepts might be learned from experience on the job, the increasing complexities of modern logistics systems require a level of

expertise that can rarely be built within the work setting alone. For instance, the interaction of all military services is difficult to conceptualize in a job setting for those logisticians who will construct future war plans. Thus, knowledge obtained through training and education must supplement skills gained through work experience.

In some cases, education may be the only effective means to expose the logistician to certain areas of combat logistics. As an example, many present logisticians may not be aware of the excesses in material and equipment that tend to build up rapidly in the early stages of a conflict (69:5). Knowledge and anticipation of such combat phenomena would greatly assist in formulating rapid redistribution plans. This example demonstrates that the logistician must be able to anticipate what might be encountered in combat. Logistics lessons from recent conflicts would provide insights on likely problems for different scenarios. A program in combat logistics would not ultimately correct all information deficiencies, but would broaden the logistician's awareness of combat logistics management concepts.

To justify research in the area of combat logistics, the second question requires a satisfactory answer, also. That question asked if the shortfalls in the problem statement were real. The fact that the HQ USAF is currently sponsoring an Air Force Institute of Technology

(AFIT) initiative to teach a combat logistics course provides the assurance that those educational needs do exist and are being addressed. In full conjunction with Project Warrior's study and research mandate, 1982 correspondence between AFIT, AFLC, and HQ USAF has identified a need to bridge the gap between the peacetime character of logistics courses and their wartime applications. In fact, Colonel Richard L. Olson from HQ USAF/LEXY responded to AFIT's letter by stating that such a course which would provide students "with an understanding of how logistics contributes to the overall war effort and wartime requirements, rather than our peacetime capabilities, is just what we need [35]."

Officers in certain logistics functions may be exposed to some of this wartime knowledge at various locations, such as the Logistics Plans and Programs course at Lowry AFB. However, there appears to be no single academic program which allows personnel from numerous logistics disciplines to relate their occupations to specific wartime actions. Many logistics courses are designed for certain Air Force Specialty Codes (AFSCs), while Professional Military Education (PME) courses certainly cover material beyond the scope of logistics. This fragmented availability of wartime logistics information inhibits awareness among logistics disciplines. Not only will this proposed combat logistics course bridge the peacetime/

wartime gap, it should also bridge the gap between courses for specialized logistics AFSCs and PME courses. Therefore, the maintenance person should gain insight on some war-fighting procedures practiced by his supply or transportation counterparts. Thus, the disadvantage of functional specialization, as cited in the problem statement, will diminish.

Research Objectives and Questions

To adequately address the dual needs of connecting logistics with war-fighting and diminishing functional specialization in the logistics field, the authors have proposed creation of a "Combat Logistics" body of knowledge. Inevitably, problems occur with the use of such a relatively new term. How is combat logistics different from regular logistics? Answering this question is highly important because the body of knowledge must exclude logistics procedures geared primarily for peacetime. How can this filtering best be accomplished, then? Some sort of analysis system would be helpful in determining relevant combat logistics topics. Such a system would thus make combat logistics a less nebulous term.

The preceding logic figures prominently in choosing the following research objective:

Research Objective 1--to establish a system for determining topic relevance to combat logistics.

Concurrently, a research question should be devised which directly supports the attainment of that objective. For the purpose of this research, the terms "Combat Readiness Activity" and "Logistics Function" are used in the supporting research question and elsewhere for specific reasons. "Combat Readiness Activity" confirms that Project Warrior ideals on war-fighting mentality are inherent in the research effort. The other term, "Logistics Functions," implies that the issue of functional specialization is addressed in the research. Specifically, the authors developed the following research question to aid in accomplishing the first research objective:

Research Question 1--What combat readiness activities and major logistics functions should be used as criteria for determining topic relevance to combat logistics?

To demonstrate the application of the analysis system from research objective 1, the authors adopted one other research objective and supporting question, as well:

Research Objective 2--to recommend a baseline two-week course syllabus covering war-fighting issues from each of the major logistics functions.

Research Question 2--What specific combat-related topics should be discussed in a baseline two-week course

covering war-fighting issues from the major logistics functions?

So far, this chapter has substantiated two ongoing needs in logistics, proposed an educational solution to those needs, and identified proper objectives and questions for the research. The next chapter explains the individual steps used to meet the research objectives.

CHAPTER II

METHODOLOGY

Purpose

This chapter addresses several important aspects of the research methodology. Those aspects include research design, scope, data collection, data analysis procedures, and limitations. Essentially, these sections explain how the project was accomplished.

Research Design

In his book, Business Research Methods, C. William Emory states that many researchers and managers give too little attention to exploratory type research (12:88). He says this method helps researchers develop concepts more clearly and establish priorities (12:88). The study of combat logistics lends itself ideally to this type of research design. The term "combat logistics" is not widely used, as mentioned in Chapter I. Also, the authors themselves experience the specialization shortfalls outlined in the problem statement. Consequently, an understanding of combat logistics necessitates the exploratory design. Emory makes further statements which clearly justify the use of this method as opposed to a more formalized approach:

It is particularly useful when the researchers lack a clear idea of the problems that they will meet in the course of the study. . . . In some cases an area of study is so vague that the researcher may propose an exploratory study to learn what problems are considered to be urgent by those who are knowledgeable in the field [12:88].

Both kinds of exploratory research, the literature survey and the experience survey, were employed as described in the data collection procedures.

Scope

The complete list of activities needed for the project included the following steps (this is a "what was done" list, while the rest of the chapter discusses in more detail "how" each step was performed):

Step 1--find potential topics for a combat logistics course and conduct an unfocused literature survey on logistics and war-fighting.

Step 2--understand each potential topic area.

Step 3--construct a criteria matrix chart (the analysis system in Research Objective 1) to categorize potential topics both by logistic function and combat readiness activity.

Step 4--match the topics with the appropriate criteria matrix cell(s).

Step 5--evaluate the matrix and all other data.

Step 6--prepare a baseline course syllabus for a two-week Professional Continuing Education course in combat logistics.

Also, it is important to recognize at the start that this work represents observations of the authors. As explained later, the research design limits potential conclusions to be drawn from the project.

Data Collection

Step 1--find potential topics for a combat logistics course and conduct an unfocused literature survey.

AFIT Data

In an attempt to solicit suggestions for topics, AFIT wrote to several key Air Force logistics organizations about the idea of a combat logistics course. Those organizations, Air Force Logistics Command, HQ USAF Directorate of Maintenance and Supply, and HQ USAF Logistics Concepts Division, all responded with topics, contacts, office symbols, and phone numbers. The AFIT letter and responses appear in the correspondence appendix. Topics suggested in response to the AFIT letter provided an extensive list to investigate. Hence, the authors adopted those topics as a major portion of the data for the project.

To warrant acceptance of the AFIT data, the authors rely on the Emory text discussions about non-probability sampling. The AFIT topic collection method constitutes a type of purposive sampling appropriate for exploratory research. Emory explains that a researcher can use the "judgement" or "expert choice" sample when desiring to study those areas believed to be in the best position for providing information (12:178). AFIT deemed the offices contacted by letter to be in the best position. Following this explanation, then, Table 1 depicts an edited, consolidated list of combat logistics topics suggested by those AFLC and HQ USAF offices.

Other Data

Sources used for the literature survey include the Defense Technical Information Center, Air University, Montgomery, Alabama; Albert F. Simpson Historical Research Center, Montgomery, Alabama; the AFIT libraries; Air Force regulations and manuals; AFIT class notes and lectures; personal interviews; conferences; phone calls; books and other publications. Additionally, Lt Col Thomas Harrington and Lt Col James Annesser contributed material in the areas of transportation, mobility, and logistics management not covered by the HQ USAF and AFLC correspondence. The first three and the last four sources surfaced most of the issues in the other chapters, while the remaining sources

TABLE 1
PRELIMINARY DATA LIST OF
COMBAT LOGISTICS COURSE TOPICS

TOPIC	CONTACT	OFFICE SYMBOL	AUTOVON NUMBER
1 UNITREP, Makeup and Role - JCS Reporting Requirements	John Glaser Capt Herrick	AFLC/LOACC AF/LEYSF	257-4964 225-9798
2 DYNA-METRIC Model	"	"	257-3030
3 W-W MCCS and WIN, Their Roles in War Games	"	"	257-3030
4 Innovative Maintenance Management Alternatives for Combat - Crash Recovery/Runway Clearing - Deferred and "Quick Look" Maintenance - Decontamination - Field Repair of XB-3 Items - Workload Scheduling - Emergency Support to Commitment Support Group - Alternate Equipment Utilization (workarounds) - Aircraft Battle Damage Repair - A Force Multiplier - Manuals	Capt Chisholm Maj Worley Maj Guy SM Sgt Roeder John Glaser	AF/LEYM AF/LERX AF/LEY Y AFLC/MAWW AFLC/LOACC	227-1493 227-0126 227-9231 257-7446 257-4964
5 Weapon System Management	"	"	257-4964
6 Red Force Center	Capt Santee	AFLC/LOEE	257-6751
7 Embedded Computer System	Mark van den Broek	AFLC/LOEE	257-6751
8 Battle Staff Briefing (Sanitized)	Lt Col Maybury	AFLC/LOO	257-7716
9 AFLC Command and Control	"	"	257-7716
10 PACER COMMAND - Reorganizationfor Readiness	"	"	257-7716
11 PACER Prepare	Col R. L. Sims	AFLC/LORA	257-3260
12 WARS- Development/ Status/Applications	" Col Saxton	" AFLC/XRS	257-3260 257-3201
13 Fuels Readiness - Fuels Support - Air Transportable Fuels Systems	" Capt Herrick "	" AF/LEYSF "	257-3260 225-9798 225-9798
14 Munitions Organizations	Col Saxton	AFLC/XRS	257-3201
15 Maintenance PDM Compression	"	"	257-3260
16 Transportation Mobility Taskings	Bill Haas	AFLC/LOZA	257-6703
17 AFLC Wartime Aerial Port Ops	Torn Spade	"	257-6703
18 Wartime Intransit Visibility of Non Unit Resupply Cargo More on Non-Unit Resupply	Jerry Riffe Capt McCoy	" AF/LEXX	257-6703 227-7332

TABLE 1--Continued

19 Utilization of CLSS During Surge	1st Lt Frey	"	257-6703
20 COM PERS (MANPER-B)	Lt Col Binzer	AFLC/MPX	257-7303
Also	Capt McCoy	AF/LEXX	225-2175
21 European Work Load Program	Capt Mitchell	AFLC/PM P	257-6754
22 European Participating Group	"	"	257-6754
23 European Distribution System	"	"	257-6754
	Lt Col D. M. Rucker	AF/LETX	227-7332
	Maj Agnor	AF/LEYSF	225-2409
24 Combat Supplies	Capt Mitchell	"	257-6754
Management System	"	"	
25 Weapon System Briefings	"	"	257-6754
26 Capability Assessment Modeling	Col Saxton	AFLC/XRS	257-3201
Applications			
27 Command, Control,	Lt Col Ennis	AFLC/XROC	257-4468
Communications & Intelligence			
Logistics C3	Maj Agnor	AF/LEYSF	225-2409
28 Industrial Preparedness	Paul Jasper	AFLC/XRPD	257-2536
Industrial Responsiveness	Capt McCoy	AF/LEXX	225-2175
29 Wartime Engine Requirements,	John Fitzgerald	AFLC/LOP	257-2339
Policy and Procedures			
30 Civil Airlift Augmentation	Lt Col D. M. Rucker	AF/LETX	227-7332
Civil Reserve Air Fleet	Capt McCoy	AF/LEXX	225-2175
31 SW A Prepositioning	Lt Col D. M. Rucker	AF/LETX	227-7332
32 Near-Term Preposition	"	"	227-7332
Force (NTPF)			
33 Strategic Mobility: Airlift, Sealift	"	"	227-7332
	Capt McCoy	AF/LEXX	225-2175
- Also Crisis Allocation			
of Strategic Lift			
Capabilities			
34 Intra-Theatre Airlift	Lt Col D. M. Rucker	AF/LETX	227-7332
35 Integrated Communication Lines	"	"	227-7332
- NATO Mutual Support Act			
- U. S. - Canadian ILOC			
- Cooperative Airlift Agreements			
36 Logistics Force Structuring	"	"	227-7332
37 Joint Operational Planning System	"	"	227-7332
38 USAF War and Mobilization Plan	"	"	227-7332
- WMP-1,-3,-5	Capt Herrick	AF/LEYSF	225-9798
- Wartime Resupply Planning,	Maj Agnor	AF/LEYSF	225-2409
(WMP-1, Annex E, Logistics)	Capt McCoy	AF/LEXX	225-2175
39 Initial Preplanned Supply Support	"	"	225-2175
40 Prepositioning Concepts	"	"	225-2175
- vs Better Deployment	Maj Worley	AF/LEX	227-0126
Capability Pro/Cons			
41 Mobilization Planning	Capt McCoy	AF/LEXX	225-2175
42 Joint Logistics Over	"	"	225-2175
the Shore			
43 Sortie Surge	"	"	225-2175
44 Survival, Recovery, and	"	"	225-2175
Reconstitution			
45 Standard Air Munitions	"	"	225-2175
Package			

Table 1--Continued

46 Standard Tanks, Racks, Adapters and Pylons Package	"	"	225-2175
47 Pacer Flex	"	"	225-2175
48 Harvest Bare/Harvest Eagle	"	"	225-2175
49 WRSK/BLSSS	"	"	225-2175
50 Capability Reporting	"	"	225-2175
51 Material Attrition	"	"	225-2175
52 Air Base Survivability	"	"	225-2175
53 Logistics Operations in CBN Environment	"	"	225-2175
54 Casualty Reporting	"	"	225-2175
55 Logistics Activities in Degraded Communications	"	"	225-2175
56 Wartime Retrograde	"	"	225-2175
57 Wartime Host Nation Support	"	"	225-2175
58 Wartime Foreign Military Sales Procedures	Lt Col D. M. Rucker Capt McCoy	AF/LETX AF/LEXX	227-7332 225-2175
59 NATO Wartime Logistics	"	"	225-2175
60 Combat Logistics Systems	Lt Col D. M. Rucker	AF/LETX	227-7332
61 Collocated Operating Bases	Capt McCoy	AF/LEXX	225-2175
62 Logistics Support for Combat Quick Turns	"	"	225-2175
- Hot Refueling	Maj Worley	AF/LERX	227-0126
63 Decentralized Base Level Maintenance Concepts	Capt Herrick	AF/LEYSF	225-9798
64 Centralized Intermediate Logistics Concept (CILC), "Lean and Mean" Support	"	"	227-0126
65 Dispersal Techniques and Hardening to Enhance Logistics Facility and Equipment Survival	"	"	227-0126
66 In Shelter Refueling of Aircraft	"	"	227-0126
67 Combat Supply Procedures (AFM 67-1, Vol II, Pt 3)	Maj Agnor	AF/LEYSF	225-2409
68 War Reserve Material Concepts (AFM 67-1, Vol I, Pt 1, Ch 14)	"	"	225-2409
- WRM levels	Capt Herrick	AF/LEYSF	225-9798
69 Mobility Equipment Concepts	Maj Agnor	AF/LEYSF	225-2409
70 Special Logistics Support Procedures - (AFM 67-1, Vol II, Pt 2, Ch 14)	"	"	225-2409
- Combat Supply System			
- Mobile Supply Computer Support (Penny counter)			
- Post - Post Procedures			
- Combat Follow-on Supply Support System (CFOSS)			
71 Joint Operations Supply	"	"	225-2409

TABLE 1--Continued

72 Relationship of CMD Ammunition Control Point (ACP) to Tactical Air Control Center During Combat Operations - Also Preplanning ACP	Lt Col Corley and Lt Bates	AF/LEYW USAFE/LGWRS	227-6994 Ramstein 6187/6396
73 Time Phased Force Deployment List (TPFDL) - TPFD Data	Capt Herrick	AF/LEYSF	225-9798
74 Joint Strategic Capabilities Plan (JSCP, Annex B, S)	Capt Chisholm Capt Herrick	AF/LEYM AF/LEYSF	227-1493 225-9798
75 Maintenance in NBC Environments	Maj Guy	AF/LEYY	227-9231
76 Reduction of Maintenance Personnel Casualties (Survivability)	"	"	227-9231
77 Joint Deployment System	"	"	227-1493
78 Unit Type Codes (UTCs)	"	"	227-1493
79 Manpower Sourcing	"	"	227-1493
80 WARFIL AND WARSKILL	"	"	227-1493
81 Individual Mobilization Augmentees (IMAs)	"	"	227-1493

clarified concepts involved with each potential combat logistics topic from the preceding data list (Table 1).

Step 2--understand each potential topic area.

Continuing the data collection process, a worksheet was developed to allow increased comprehension of each topic. An example of the worksheet appears as Figure 1 and the worksheet appendix contains edited data on each topic. The "Topic Synopsis" section of the worksheet was used to gain a basic definition along with some major issues involved. The "Comments" area on the worksheet usually deals with any peculiar war-fighting issues concerned with the topic and gives other helpful information. Finally, the "Classroom Material Sources" section shows some potentially appropriate instruction material.

Topic knowledge on these worksheets came from both methods of exploratory research noted earlier in research design, the literature survey and the experience survey. Air Force regulations, manuals and other publications comprised the literature survey elements used for many worksheets. The experience survey method, on the other hand, proved especially instrumental in discovering war-fighting issues connected with some topics. In explaining the use of this method, Emory states that:

We will profit by seeking information from persons experienced in the area of study. . . . When we interview persons in an experience survey we should seek their ideas on which are the important issues

TOPIC 52: Air Base Survivability (7:8)

TOPIC SYNOPSIS:

Only a total systems approach can effectively deal with problems here, which include vulnerable aircraft, rapid runway repair, increasing accuracy of enemy weapons, air defense systems, and protective revetments around support facilities.

COMMENTS:

Other related topics are reduction of maintenance casualties, collocated operating bases, logistics operations in a chemical, biological, or nuclear (CBN) environment, and survival recovery, and reconstitution. In fact, air base survivability could be addressed as a major topic area with many sub-issues.

CLASSROOM MATERIAL SOURCES:

Alternatives to standard air base functions should definitely be brought out also, especially the Air Force 2000 discussions about smaller, decentralized, and more autonomous air base operations in the future.

Fig. 1. Worksheet Example

or aspects of the subject. The investigative format we use should be flexible enough that we can explore various avenues that emerge during the interview. We seek to learn what is being done [12:89].

Moreover, Emory claims this method can yield stimulating insights from a variety of personnel with different experiences in the field (12:90).

On the basis of this reasoning, the authors constructed a three-question experience survey for topics not readily understood by the literature survey method. The questions asked the various contacts were as follows:

1. How would you define the topic or describe its major issues?
2. What might occur differently in this area under wartime conditions as opposed to peacetime?
3. What material, if any, might be useful for classroom instruction on this topic?

Answers to question 1 were placed in the "Topic Synopsis" section of the worksheet while question 2 answers generally appear in the "Comments" section. Question 3 answers are found in the "Classroom Material Sources" section. As can be seen, the worksheet proved adaptable to collecting data with either the literature or experience survey method.

Several other features of the experience survey design are noteworthy, also. First, the survey communication mode included both personal interviews and phone calls. Second, conversation with contacts for topics began

with a short explanation of the research and a request for assistance on understanding the topic in question. Third, the questions compose an open response structure which is congruent with the exploratory method. Last of all, question 1 was personalized to enhance the "stimulating insight" benefit of the experience survey.

Data Analysis

Editing

Table 1 demonstrates the editing done with the raw data from the AFLC and HQ USAF correspondence. Topics suggested by both sources were combined to avoid duplication. However, the separate contacts for each topic were included in Table 1 information.

Coding

Step 3--construct a criteria matrix chart (the analysis system in Research Objective 1) to categorize potential topics both by logistic function and combat readiness activity.

Emory states that the coding process "consists of assigning numerals or other symbols to answers so as to enable the responses to be grouped into a limited number of classes or categories [12:371]." The first research objective required three coding actions. First, to simplify the placement of topics in analysis categories later on, numbers were assigned to each suggested topic as a code.

Second, the analysis categories themselves had to be chosen. Third, the analysis categories (matrix cells) were designated alphabetically. Figure 2 depicts the system with those analysis categories. This combat logistics criteria matrix attains the first objective.

According to Emory, four rules govern the use of a classification system, such as the matrix. They are: (1) appropriate to the research problem and purpose; (2) exhaustive; (3) mutually exclusive; and (4) derived from one classification principle (12:371). As to the first rule, the categories should apply to the investigative questions (12:371). Therefore, all matrix categories are breakdowns of the terms "Logistics Functions" and "Combat Readiness Activities" used in research question 1. The next section further explains those breakdowns. The second rule on exhaustiveness means "there must be a category for every item [12:372]." One way to ensure exhaustiveness is to include an "other" category (12:372). The last row of the matrix fulfills that rule with the category of "Survivability and Flexibility Actions." Rule 3 indicates that each suggested topic should fit in only one cell. The combat logistics criteria matrix violates this rule, but with good reason. Suggested topics may be narrow or broad in their coverage, so the matrix was designed especially to demonstrate those features. One topic could cover areas described by several cells. This information

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	i
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

Fig. 2. Combat Logistics Criteria Matrix

could prove valuable by indicating a general, unrefined topic or one having a major impact on combat logistics. Thus, the matrix design fails rule 3, but enhances the information benefits of the system. Finally, rule 4 means that categories should not overlap. The operational definitions of the matrix categories differentiate those categories satisfactorily.

Matrix Development

The combat readiness activity column on the matrix contains elements from the February 1982 Rand report entitled An Integrated View on Improving Combat Readiness and also from concepts in the Air Force 2000 study. Criticizing commonly-held views on combat readiness, the Rand report noted that readiness involves much more than equipment reliability. The report, therefore, combined hardware performance with "characteristics and capabilities of support systems" to measure readiness (41:1). Furthermore, the report asserted that readiness is a meaningless term unless measured in relation to a particular wartime scenario. In other words, a question like, "How ready is the support for the 2nd Strategic Bomb Wing?" is meaningless by itself. It is much more meaningful to ask, "How ready is the support for the 2nd Strategic Bomb Wing if there was a theater-level Mid-East conflict requiring its deployment tomorrow?" In conjunction with these thoughts, the Rand report

submitted a concept of combat readiness with nine characteristics of a wartime scenario:

- Identification of unit(s)
- Initial condition of unit(s) (across all resources)
- Warning time to deployment
- Time to initial engagement
- Expected condition of receiving base(s)
- Life requirements and availability
- Sortie requirements
- Threat and expected attrition (air and ground)
- Timing and volume of resupply [41:2]

While these Rand report characteristics allowed a generally comprehensive analysis of unit combat readiness, the Air Force 2000 study provided additional criteria for likely warfare scenarios of the near future. Small, austere airfield environments, decentralized mobile support units, and sustained dispersed combat operations compose some major concerns of this study. The study identified those items as needed solutions for the problems of fixed-site air base vulnerability. Terminology use for these issues consisted of the words "mobility, flexibility, and survivability [56:165]." Therefore, the matrix includes the combat readiness activities of "Mobility" and "Survivability and Flexibility Actions." Also, C³I was added as a major combat readiness activity from issues in the AF 2000 document. The Rand report did not mention this term specifically, so it was chosen to indicate the overall management and information processing requirements of a wartime scenario.

Table 2 shows the way in which combat readiness activities chosen for the matrix cover the Rand and AF 2000 elements just discussed. Also, the exact use of each term is outlined in the operational definition. According to Emory, the operational definition is vital for these kinds of abstract concepts (12:29).

The use of these particular combat readiness activities makes sense because they represent several basic considerations in the development of hostilities. Who should be deployed? Are those units in conditions to go? What sortie rates must be sustained to accomplish the mission? What is the status of the units in transit? Can the reception areas handle the projected flow of personnel and cargo? What is the threat? What is the status of communications? Are there qualified commanders in charge and are they operating effectively? How are we filling in the losses of personnel and equipment resources? What might we have to do, or do differently, to ensure survivability? All of these questions are inherent in the combat readiness activity column of the matrix. Consequently, the choice of terms for this column suggests coverage of all combat readiness issues, mainly because of the catch-all category of "Survivability and Flexibility Actions."

Unlike the combat readiness activities, the logistics functions in the matrix need little explanation. The

TABLE 2
MATRIX DEFINITIONS

COMBAT READINESS ACTIVITY	Corresponding Rand/AF 2000 Term	OPERATIONAL DEFINITION
Identification of Units	Rand term is the same	The process of planning and choosing military units of all U. S. services which will deploy to engage the enemy. Specific units normally deployed include the General Purpose Combat Forces and Combat Support Forces listed in parts 1 and 2 of the War and Mobilization Plan (WMP-3)(58:1-1). Units may be designated in support of a specific War Plan or may be notionally tasked.
Initial Unit Condition Rating	Rand term is similar	The activity of determining whether a unit or system is capable of performing the mission for which it was organized or designed. The idea incorporates both equipment and personnel readiness and would measure such items as training, equipment reliability, WRSK or mobility bag fill percentages, etc.
Sortie Requirements Planning	Rand term is similar	A sortie is the flight of a single aircraft from takeoff until landing (47:634). This combat readiness activity describes the operational function of determining sorties needed to accomplish mission objectives. These flying rates and hours, in turn, affect working hours and weapon system wear and tear. At the same time, the condition of personnel and support systems for the aircraft may limit those sortie rates. Thus, this interactive relationship between the aircraft and its support systems influences sortie plans.
Mobility	Same term as in AF 2000 Study	A quality or capability of military forces which permits them to move from one place to another while retaining the ability to fulfill their primary mission (47:455). This term involves the entire spectrum of mobility activities from personnel/cargo processing to work center operations to airlift requirements planning to status reporting until the unit reaches the destination base.

TABLE 2--Continued

COMBAT READINESS ACTIVITY	Corresponding Rand/AF 2000 Term	OPERATIONAL DEFINITION
Reception Preparations	Rand term deals with bat- tle condition only	Steps taken to prepare forward operating loca- tions to receive men and equipment in various theaters. This is to assure that minimum needs are met in order to perform missions as as- signed. MAJCOMS are given the responsibility to insure that each base programmed to receive deployed forces has a base reception plan. To incorporate the Rand conceptions, the term should also refer to information on the damage condition of the reception area (58:1-1).
Command, Con- trol, Communi- cation, & Intelli- gence	AF 2000 term is identical	A system combining the functions of collecting, processing, transmitting, and applying essential information to manage and execute Air Force operations effectively. This essential informa- tion includes details about enemy and friendly forces, logistics, weather, and personnel data (56:137, 146).
Attrition Management	Rand term is similar	The process of minimizing reduced force effectiveness caused by the loss of equipment, material, and personnel (47:74). Rand uses the words "Timing and volume of resupply," also (41:2).
Survivability and Flexibility Ac- cepts tions	AF 2000 con- cepts	Survivability: The capability of a system to avoid or withstand a manmade hostile environ- ment without suffering an abortive impairment of its ability to accomplish its designed mission (47:676). Flexibility: A concept that permits operation in new and different environments (47:168). Again, this category serves as a catch-all.
<p>Note: Two combat readiness activities incorporate the remaining Rand terms. C3I in this matrix covers the Rand terms of "Warning time to deployment" and "Threat." Also, Mobility in this matrix includes the Rand terms of "Time to initial engagement" and "Lift requirements and availability."</p>		

logistics functional areas were chosen from key words in the Compendium of Authenticated Systems and Logistics Terms, Definitions and Acronyms. These logistics functions primarily represent the spectrum of anticipated student AFSCs for the course. As mentioned in Chapter I, the purpose of using "logistics function" was to address the problem of functional specialization.

Use of the Matrix

Step 4--match the topics with the appropriate criteria matrix cell(s).

This step also qualifies as a coding function. Any topic that fits in at least one cell can be construed as part of the combat logistics body of knowledge. The conclusion of the fit is that the topic deals both with at least one combat readiness activity and logistics function. Some of the preliminary topics in the data list were not selected and the reason for each rejection is explained in Finding 3 (page 46). Those rejections are in the back of the worksheet appendix. These areas may hold significance in themselves, but are judged only peripherally relevant to combat logistics. An example of matrix placement results for one topic can be found in Figure 3, and all placement results follow each topic in the worksheet appendix.

TOPIC 52: Air Base Survivability

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

Fig. 3. Topic Placement Example

Final Assessments

Step 5--evaluate the matrix and all other data.

Step 5 consisted of four types of matrix analysis-- cell placement totals, bar charts, pie charts, and an impact study. The cell placement totals simply show the totals of topics described in each cell by the matching process of the previous step. Bar charts and pie charts, on the other hand, refer to the concentration of topics among the five logistics functions from the data. The primary goal of these charts is to examine the balance between the logistics functions for the two-week course. The impact study measured the narrowness or broadness of the topics suggested by the particular data set from AFLC and HQ USAF correspondence. A narrow topic was one placed in three cells or less, a mid-range topic was found in from four to ten cells, and a broad topic would be placed in more than ten matrix cells.

Evaluating all other data encompasses general impressions and important issues from the entire research effort. Emory maintains the end of exploratory research comes when the researchers have found the major dimensions of the research task (12:90). Chapter IV expounds on those dimensions.

Step 6--prepare a baseline course syllabus for a two-week Professional Continuing Education course in combat logistics.

The course syllabus suggests reading material and topics to be covered each day of a two-week (ten class day) program. Depending on the range or depth objectives of the sponsor, this course length should cover most important topics derived from the analysis, but could be shortened or lengthened. The syllabus uses ideas from the matrix and other research information, and appears in the syllabus appendix with further notes. This syllabus also accomplishes the second research objective.

Initially, it was recognized that a combat logistics course of this length could only address major logistics issues related to war fighting. Introductory maintenance, supply, transportation, or logistics plans courses usually take at least a month to complete. Consequently, the authors did not create a baseline combat logistics course concentrating on detailed mechanics within each logistics function.

The problem of detail had to be avoided also in choosing the topics from the matrix placement results. Considering that all combat logistics topics could probably not be addressed in a ten class day course, the authors developed a decision rule for selecting syllabus topics from the matrix placement results. Designated as the

10-5-4 rule, this method identified major syllabus topics as follows:

1. Topics which affect more than any ten cells should be chosen for the course syllabus. These topics would signify broad concepts applying to several areas of both combat and logistics. In other words, all the broad topics defined by step 5 were chosen here.

2. Topics which affect at least five combat readiness activities in any one logistics function column should be chosen for the course syllabus. Such a topic would indicate a special issue within one logistics function related to several major combat readiness activities.

3. Topics which affect at least four logistics functions in any one combat readiness activity row should be chosen for the course syllabus. Such topics would span most logistics functions and demonstrate to students the interconnections between their specialties.

The 10-5-4 rule does not intend to eliminate topics for consideration entirely, but the rule provides a method for selecting the broader impact topics. Balance between the topics is not the intent of the 10-5-4 rule, either. That balance can be assured by simply assigning a certain number of hours to the supply block, for instance. Bar and pie charts were drawn up from this step, though, to see what the 10-5-4 rule revealed about the balance between the broader impact topics.

Limitations

The authors imposed three constraints on the research effort. The first constraint applied to the number of data sources used. AFIT had solicited suggestions for combat logistics topics from AFLC and the HQ USAF starting in September 1982. Over eighty topics were suggested from these two sources. Because of the anticipated deluge of duplicate information, other sources (such as other MAJCOMs) were not searched. The next chapter contains a recommendation on MAJCOM-unique combat logistics topics.

A second limitation concerns the problem of subjectivity arising in step 4, matching topic concepts with matrix cell concepts. The logistics experience of the persons doing the matching affects the accuracy of this step. Disagreements could exist.

An ancillary subjectivity problem occurs with the context of a topic. For instance, the Air Force emergency data form by itself may not fit the matrix. However, a different situation arises if many personnel hold up a deployment processing line because those forms must be updated on the spot. Processing delays may impede units making their takeoff times. Suddenly, a small issue like keeping current emergency data forms can require expedient action by logistics plans personnel controlling the

entire mobility operation. This example shows that the context of a topic may affect its placement in the matrix.

Regardless of this last obstacle, the authors qualified the usefulness of the matrix for five reasons. First, a topic must be generally understood before it can be placed in the matrix. Second, although slight disagreements may exist on matrix placements, the system still shows if a topic fits at all. Third, major disagreements would probably not exist on the general impressions of a topic's breadth. Fourth, it would not appear necessary to gain increments of placement accuracy by assembling a panel of experts, especially if researchers studied the topics beforehand. Lastly, even closed-ended questions could not have avoided subjectivity totally.

Finally, the authors restricted the inferences drawn from this research. It was felt that more study was needed before attempting conclusions or quantitative analysis on combat logistics. Since this project uses the exploratory approach on an "expert" sample, the authors had to be careful not to make premature inferences on the findings. A reservation about the "expert" sampling process is that it does not necessarily collect data representing the total population of combat logistics topics. The recommendations and conclusion sections contain more explicit information on this limitation.

This chapter, then, has established the use of the exploratory research design in the project, listed the topic data, detailed collection and analysis procedures and pointed out some research limitations. It is now time to discover what the entire research process has yielded.

CHAPTER III

FINDINGS

Purpose

According to Emory, the objective of the Findings section is an exposition of the data rather than drawing interpretations or conclusions (12:465). Emory also indicates that simple charts and tables most effectively display findings. Thus, this chapter reviews what the authors encountered throughout the steps and portrays some data analysis results in graphical form.

Finding 1: Steps 1 and 2 Results (Data Collection)

Data Deficiency

After scrutinizing the USAF and AFLC data, the authors initially suspected a shortage of transportation and especially acquisition topics. The "expert" sampling procedure did not specifically inquire into those areas. As explained further in recommendations, the data list provided substantial transportation issues, anyway, but the matrix results confirmed a shortage of acquisition issues. Also, the unfocused literature review helped to add depth to transportation topics, but did not add much to the acquisition area.

Worksheet Usefulness

Not all sections on the worksheets required completion. Sometimes the synopsis alone made the war-fighting issues self-evident. Occasionally, the topic was too narrow or too vague to justify further comment. Also, the nature of some topics precluded any available classroom material, especially if they were ideas or procedures in development. The limited information reflected on some worksheets did not pose an obstacle to the research effort because the objective of the worksheet was not to gain expertise on each topic. Primarily, the worksheet provided sufficient topic knowledge for subsequent placement in the matrix.

Information from Topic Contacts

Discussions with topic contacts proved most beneficial in clarifying what a logistician might face in a war environment. The following list includes the authors' impressions of the most salient and recurring war environment features described by the contacts.

1. Longer working hours.
2. Substantially more stress.
3. Much greater need for procedural flexibility to handle increased consumption or loss of resources.
4. A need for increased coordination but also an opposite need for unilateral, decentralized problem solving.

5. A significant need for personnel to be versatile in accomplishing somewhat unfamiliar tasks.

This last personnel feature in the war environment was a rather unexpected perception and marks the benefits of the experience survey. Contacts mentioned that personnel could expect to have to assume positions vacated because of combat deaths, in some cases. Matching remaining skills with jobs can become a difficult process.

Finding 2: Steps 3 and 4 Results
(Data Analysis)

Subjectivity

The data collection process resulted in worthwhile insights on topics, but then the subjectivity problem noted in the Limitations section arose. Even with topic research and specific operational definitions for combat readiness activities, matching topic concepts with matrix cell concepts was not always easy. Most of the narrow topics seemed fairly obvious as to cell fit. The broader topics posed the most difficulty. If the authors had actually seen a Joint Strategic Capabilities Plan, for instance, they may have changed their minds on a cell placement or two. So the logistics experience of the authors was a factor in the matching process to some degree. Presumably, an instructor for a combat logistics course would have less difficulty. Overall, however, the authors felt this problem only occurred with a few topics.

Terminology Conflict

Another problem related to subjectivity emerged in the matching process. Occasionally, the decision to place a supply or maintenance topic in an "Attrition Management" and/or "Survivability and Flexibility Actions" cell caused questions. The distinction was not always clear. Unfortunately, this problem suggests incomplete compliance with Emory's rule 4 about no overlap in categories. On the other hand, this overlap problem with the last two combat readiness activities did not occur when matching transportation or logistics plans issues. In fact, the distinction between the last two combat readiness activities seemed clear for those issues.

General Matrix Performance

Beyond these matters, the authors were quite pleased with the performance of the matrix in diagnosing the major elements of potential combat logistics topics. Some topics sounded so unrelated to combat logistics initially that without the criteria matrix, it would have been easy to eliminate them from course consideration. The matrix provided a more precise method for selecting topics in the body of knowledge and for a two-week course syllabus. Instead of simply deciding subjectively that a topic is too narrow for course consideration, an instructor can accept or reject topics on a more measurable basis.

In other words, one can say a topic is too narrow because it only deals with combat logistics concepts in three matrix cells. The matrix allows more definite reasons for decisions. Interestingly, this matching process, although somewhat subjective in itself, can actually reduce the subjectivity problem in choosing course topics.

Finding 3: Steps 5 and 6 Results
(Data Analysis)

Matrix Exclusions

The most remarkable aspect of these steps is that 94 percent of the topics fit the criteria matrix. The authors had not expected the placement to be that high. Of the four rejections, one was a duplicate of a topic already placed in the matrix, one was not corroborated as a valid suggestion, and the other two dealt with foreign military sales procedures.

Topic 9 (see Appendix B), Command and Control in AFLC, replicated Topic 10, Pacer Command (Reorganization for Readiness). Both topics concerned AFLC initiatives to enhance weapons systems support. A number of those efforts are listed as follows:

1. Pacer Align is a major reorganization which emphasizes weapon system management and war planning. This move means a shift in emphasis from the Item Manager to the System Program Manager, who now has both increased responsibility and authority.

2. The Liaison Program was established between AFLC and other MAJCOMs to actively address logistics needs before they impact seriously on combat capability.

3. Creation of the Logistics Operations Center (LOC) takes care of day-to-day activities, while freeing the headquarters staff for broader challenges.

4. Acquisition of WWMCCS capability for AFLC and its ALCs is a substantial C³I improvement. Numerous excellent examples of active war-fighting emphasis came from research on AFLC suggested topics. The finding on unique topics reiterates this point. Nevertheless, in this instance, research editing procedures followed by the authors did not decipher the overlap on Topics 9 and 10. Thus, Topic 9 was excluded from matrix analysis.

Topic 71, Joint Operations Supply, was another topic not placed in the matrix. Several contacts indicated they were unaware of such a term. Possibly, the person originally suggesting the topic meant to refer to agencies supplying items to all U.S. services. Indeed, wartime operation of the General Services Administration and the Defense Logistics Agency hold good potential for a combat logistics course. In this case, however, the authors chose not to fit Topic 71 in the matrix since the intent of the topic was unclear.

Finally, two topics on Foreign Military Sales (FMS), Topics 23 and 58, were not placed in the matrix. Contacts for this area disclosed that there is currently no published guidance for transition to wartime FMS procedures. However, the Defense Security Assistance Agency (DSAA) is directing a program to study, define, and issue the needed guidance. Other research sources suggested the importance of security assistance and mentioned its main controversy. That controversy concerns whether FMS procedures rob USAF inventory needs. FMS proponents argue contrarily that FMS reduces the risk of direct U.S.-military involvement. From the standpoint of the combat logistics criteria matrix, then, FMS appears to be more oriented toward avoiding direct war-fighting by U.S. logistics personnel. Consequently, direct relevance of FMS to combat logistics seems questionable. Later on, however, as the DSAA wartime FMS guidance is published, Topics 23 and 58 may require matrix placement in an acquisition category. This FMS situation illustrates the dynamic nature of the combat logistics body of knowledge.

Unique Topics

This section examines some interesting topics which reveal an ideal war-fighting orientation. As a case in point, Topic 6, Red Force Center, is an Electronic Warfare ground simulator at Sacramento. At the start,

one might doubt its relevance to combat logistics. However, it involves an initiative on the part of AFLC to attain organic capability in reprogramming software. This capability means that instead of replacing hardware, user-reprogrammed software can meet the requirements. For instance, if someone requires different mission data or trajectory information, they can reprogram the system themselves or have AFLC provide the adjustments within seventy-two hours.

This example symbolizes an AFLC combat-oriented logistics venture which disregards traditional role divisions between AFLC and Air Force Systems Command (AFSC). AFSC is usually in command of the development role and AFLC assumes the support role. Some controversy exists over how long AFSC should retain management responsibility for a system. Some think that day-to-day system operations are less efficient if AFSC has not accomplished Program Management Responsibility Transfer (PMRT) to AFLC in a timely manner. Others argue that the technological sophistication of modern systems demands longer AFSC involvement. With the organic development capability mentioned above in Topic 6, AFLC is circumventing this AFSC/AFLC peacetime role conflict and dealing directly with war-fighting enhancements. Contacts expressed belief that only this correct sense of priorities can ensure effective combat logistics support. This AFLC war-fighting initiative also

supports a later recommendation on combat-oriented acquisition topics.

Topic Categories

The previous section dealt with unique topics, while this section and the rest of the chapter concern observations about the 10-5-4 decision rule. Before applying the 10-5-4 rule, the authors categorized all matrix topics by number of cell placements as described in Step 5. Step 6 then used the 10-5-4 decision rule on these topics to help reduce the topic list to a manageable two-week syllabus. The 10-5-4 rule, as outlined in Chapter II, attempted to identify topics with broad impact, or with special impact on a particular logistics function/combat readiness activity.

Table 3 shows that Step 5 identified sixteen narrow topics (with three matrix cell placements or less), forty-five mid-range topics (four to ten placements), and sixteen broad topics (more than ten placements). Asterisk topics qualified under the 10-5-4 rule criteria for inclusion in the two-week combat logistics course. Those asterisk topics are reconfigured in Table 4 to show under which blocks of instruction they were chosen for the syllabus.

Together, these tables yield three noteworthy observations. First, there is a definite scarcity of

TABLE 3

TOPIC CATEGORIES BEFORE APPLYING THE
10-5-4 RULE

No Placement in Matrix

- AFLC Command and Control (Topic 9)
- European Participating Group (Topic 22)
- Wartime Foreign Military Sales Procedures (Topic 58)
- Joint Operations Supply (Topic 71)

Narrow Topics

- Unit Status and Identity Report (UNITREP) (Topic 1)
- DYNA METRIC Model (Topic 2)
- Innovative Maintenance Management (Topic 4)
- Red Force Center (Topic 6)
- Embedded Computer System (Topic 7)
- Pacer Prepare (Topic 11)
- Wartime Assessment Requirement Simulation (WARS)
(Topic 12)
- Programmed Depot Maintenance (PDM) Compression
(Topic 15)
- European Work Load Program (Topic 21)
- Capability Assessment Modeling Applications (Topic 26)
- Industrial Preparedness/Industrial Responsiveness
(Topic 28)
- Wartime Engine Requirements (Topic 29)
- Initial Preplanned Supply Support (Topic 39)
- Material Attrition (Topic 51)
- In Shelter Refueling of Aircraft (Topic 66)
- Maintenance in Chemical, Biological, or Nuclear Environ-
ment (Topic 75)

TABLE 3--Continued

Mid-Range Topics

- Weapon System Management (Topic 5)
- Battle Staff Briefing (Sanitized) (Topic 8)
- * Pacer Command (Topic 10)
- * Fuels Readiness (Topic 13)
- Transportation Mobility Taskings (Topic 16)
- AFLC Wartime Aerial Port Operations (Topic 17)
- * Wartime Intransit Visibility of Non Unit Resupply Cargo (Topic 18)
- * Combat Logistics Support Squadron (CLSS) (Topic 19)
- COMPES (Topic 20)
- * European Distribution System (Topic 23)
- Combat Supplies Management Systems (Topic 24)
- * Weapon System Briefing (Topic 25)
- * Command, Control, Communications, and Intelligence (C³I) (Topic 27)
- Integrated Communication Lines (Topic 35)
- * Logistics Force Structuring (Topic 36)
- Prepositioning Concepts (Topic 40)
- * Joint Logistics Over the Shore (LOTS) (Topic 42)
- * Sortie Surge (Topic 43)
- * Survival, Recovery, and Reconstitution (Topic 44)
- * Standard Air Munitions Package (STAMP) (Topic 45)
- * Standard Tanks, Racks, Adapters, and Pylons Package (STRAPP) (Topic 46)
- Pacer Flex (Topic 47)
- Harvest Bare/Harvest Eagle (Topic 48)
- * WRSK/BLSS (Topic 49)
- * Air Base Survivability (Topic 52)
- * Logistics Operations in Chemical, Biological, or Nuclear Environment (Topic 53)

*Topics chosen by 10-5-4 Rule for blocks in the two-week course.

TABLE 3--Continued

-
- * Casualty Reporting (Topic 54)
 - * Logistics Activities in Degraded Communications (Topic 55)
 - Wartime Retrograde (Topic 56)
 - * Wartime Host-Nation Support (Topic 57)
 - Combat Logistics Systems (Topic 60)
 - Combat Quick Turns (Topic 62)
 - Decentralized Base Level Maintenance Concepts (Topic 63)
 - Centralized Intermediate Logistics Concept (CILC) (Topic 64)
 - * Dispersal Techniques and Hardening (Topic 65)
 - Combat Supply Procedures (Topic 67)
 - * War Reserve Material (WRM) (Topic 68)
 - * Mobility Equipment Concepts (Topic 69)
 - Special Logistics Support Procedures (Topic 70)
 - Ammunition Control Point (Topic 72)
 - * Joint Strategic Capabilities Plan (JSCP) (Topic 74)
 - Maintenance in Chemical, Biological, or Nuclear Environment (Topic 76)
 - Joint Deployment System (Topic 77)
 - * Unit Type Codes (Topic 78)
 - * WARFIL and WARSKIL (Topic 80)

Broad Topics

- * Worldwide Military Command and Control System (WWMCCS) (Topic 3)
- * Munitions Organizations (Topic 14)
- * Civil Reserve Air Fleet (CRAF) (Topic 30)
- * SWA Prepositioning (Topic 31)
- * Near-Term Preposition Force (NTPF) (Topic 32)

*Topics chosen by 10-5-4 Rule for blocks in the two-week course.

TABLE 3--Continued

-
- * Strategic Mobility (Topic 33)
 - * Intra-Theater Airlift (Topic 34)
 - * Joint Operational Planning System (JOPS) (Topic 37)
 - * USAF War and Mobilization Plan (WMP) (Topic 38)
 - * Mobilization Planning (Topic 41)
 - * Capability Reporting (Topic 50)
 - * NATO Wartime Logistics (Topic 59)
 - * Collocated Operating Bases (Topic 61)
 - * Time Phased Force Deployment List (TPFDL) (Topic 73)
 - * Manpower Sourcing (Topic 79)
 - * Individual Mobilization Augmentees (IMAs) (Topic 81)
-

*Topics chosen by 10-5-4 Rule for blocks in the two-week course.

TABLE 4

TOPICS CHOSEN BY 10-5-4 RULE FOR BLOCKS
IN THE TWO-WEEK COURSE

Introduction

- Logistics Operations in Chemical, Biological, or Nuclear Environment (Topic 53)

Transportation

- Civil Reserve Air Fleet (CRAF) (Topic 30)
- SWA Prepositioning (Topic 31)
- Near-Term Preposition Force (NTPF) (Topic 31)
- Strategic Mobility (Topic 33)
- Intra-Theatre Airlift (Topic 34)
- Joint Logistics Over the Shore (LOTS) (Topic 42)

Logistics Plans

- Worldwide Military Command and Control System (WMMCCS) (Topic 3)
- Logistics Command, Control, and Communications (Log C³I) (Topic 27)
- Joint Operational Planning System (JOPS) (Topic 37)
- USAF War and Mobilization Plan (WMP) (Topic 38)
- Mobilization Planning (Topic 41)
- Wartime Host-Nation Support (Topic 57)
- Collocated Operating Bases (Topic 61)
- Mobility Equipment Concepts (Topic 69)
- Time Phased Force Deployment List (TPFDL) (Topic 73)
- Unit Type Codes (Topic 78)

Supply

- Fuels Readiness (Topic 13)
- European Distribution System (EDS) (Topic 23)

TABLE 4--Continued

-
- Standard Air Munitions Package (STAMP) (Topic 45)
 - Standard Tanks, Racks, Adapters, and Pylons Package (STRAPP) (Topic 46)
 - WRSK/BLSS (Topic 49)
 - War Reserve Material (WRM) (Topic 68)

Maintenance

- Munitions Organizations (Topic 14)
- Combat Logistics Support Squadron (CLSS) (Topic 19)

Other War-Fighting Issues

- Pacer Command (Topic 10)
 - Wartime Intransit Visibility of Non Unit Resupply Cargo (Topic 18)
 - Weapon Systems Briefing (Topic 25)
 - Logistics Force Structuring (Topic 36)
 - Sortie Surge (Topic 43)
 - Survival, Recovery, and Reconstitution (Topic 44)
 - Capability Reporting (Topic 50)
 - Air Base Survivability (Topic 52)
 - Casualty Reporting (Topic 54)
 - Logistics in Degraded Communications (Topic 55)
 - NATO Wartime Logistics (Topic 59)
 - Dispersal and Hardening Techniques (Topic 65)
 - Joint Strategic Capabilities Plan (JSCP) (Topic 74)
 - Manpower Sourcing (Topic 79)
 - WARFIL and WARSKIL (Topic 80)
 - Individual Mobilization Augmentees (IMAs) (Topic 81)
-

maintenance topics that made it through the 10-5-4 decision rule. Only two maintenance topics were chosen for the syllabus by that method. Also, only two topics with the word "maintenance" in them qualified initially as mid-range. No topics using "maintenance" qualified in the broad category, but three of those topics were classified as narrow. Most surprising of all is that Topic 4, Innovative Maintenance Management Procedures, with numerous sub-issues, was expected to surely qualify as a broad topic. The matrix design, however, only allowed three cell placements for Topic 4.

A second noteworthy observation from Tables 3 and 4 stems from the relatedness of some topics. Some of the more narrow topics could exist as subsets of broader topics. Before researching the topics, it was not possible to know whether the editing caught all those relationships. These subsets can certainly be taught or addressed distinctly, so there is no real problem for the syllabus. In fact, this subset relationship seems to help explain certain phenomena such as the high concentration of C^3I topics in the matrix (see Figure 4). The most notable set/subset relationship seems to be in that C^3I area, where Topic 50, Capability Reporting, could include subset Topics 1, 2, 8, 11, 12, 25, 26, 29, 54, and 74.

The third and final noteworthy observation here is that all of the manpower issues (Topics 79, 80, and 81)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	32 a	17 b	17 c	18 d	
Initial Unit Condition Rating	17 f	8 g	8 h	8 i	1 j
Sortie Requirements Planning	13 k	12 l	6 m	6 n	2 o
Mobility	25 p	17 q	28 r	21 s	4 t
Reception Preparations	7 u	8 v	10 w	9 x	
Command, Control, Communication, & Intelligence	40 z	29 aa	31 bb	30 cc	7 dd
Attrition Management	30 ee	19 ff	6 gg	7 hh	6 ii
Survivability and Flexibility Actions	27 jj	24 kk	19 ll	18 mm	8 nn

Fig. 4. Total Matrix Placement Results Before the 10-5-4 Rule

survived the 10-5-4 rule. The authors did not expect such a strong showing for the syllabus by those topics because much research material dealt more with equipment and systems than with personnel. Including those topics on the syllabus reflects the broad impact they have on combat logistics.

Cell Tabulations

Totaling the number of topics placed in each cell produced one insight which corresponds to the preceding observation on capability reporting. Figure 4 shows that the highest total across any combat readiness activity row was in the C³I row. That fact held true after the 10-5-4 rule, also, as can be seen in Figure 5.

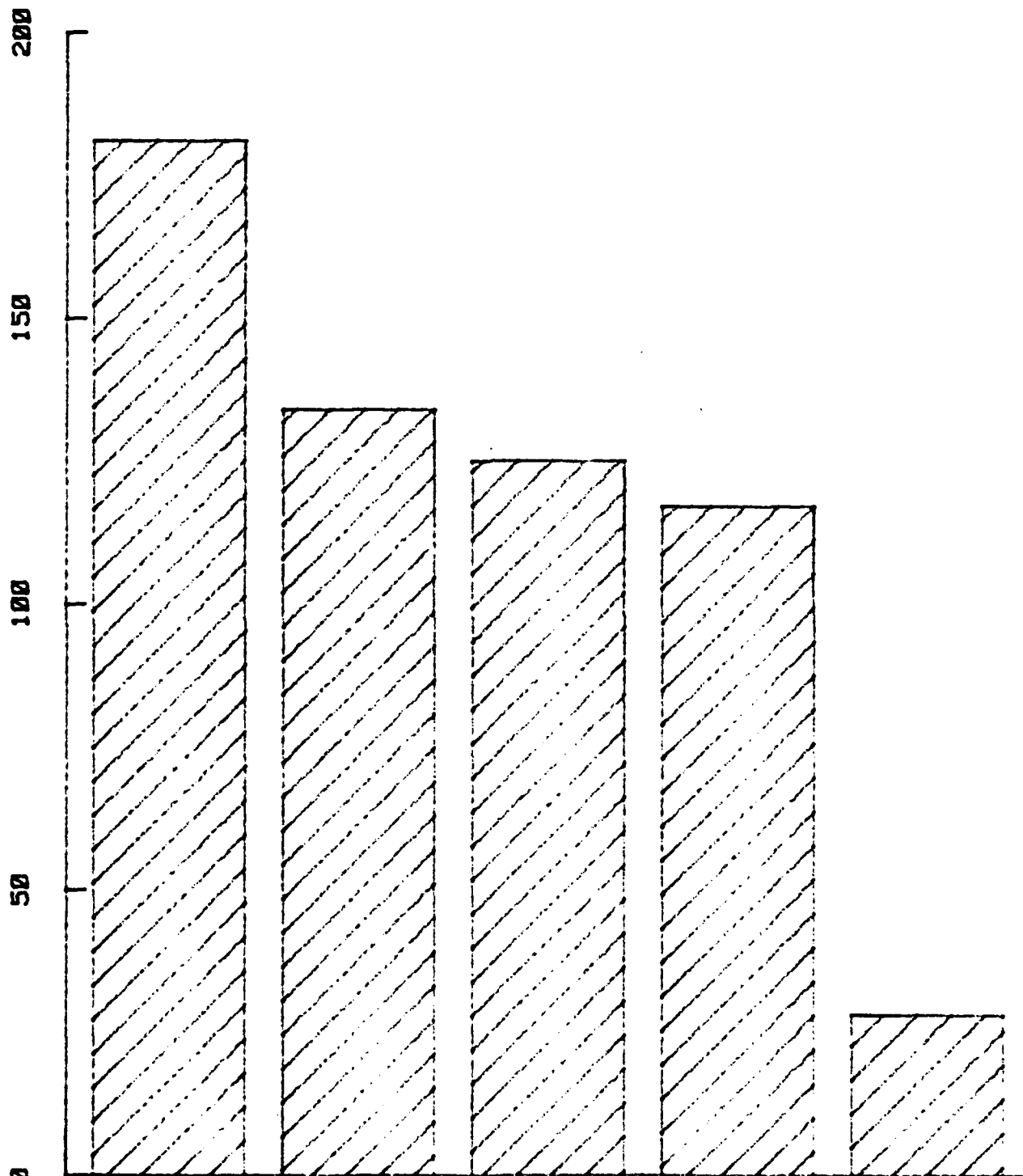
Combat Logistics Topics Concentration

Using the cell tabulations, Figures 6 through 9 display the topic distribution among the logistics functions. Bar heights represent totals gained by adding cells in each column from Figures 4 and 5. As indicated from both the bar and pie charts, the distribution remains relatively unchanged after the 10-5-4 decision rule. Supply issues from the topic list occurred with the highest frequency. The next three functions are almost identical in the percent of matrix placements. Only acquisition did not figure prominently in the placements.

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	20 a	17 b	16 c	15 d	
Initial Unit Condition Rating	13 f	6 g	7 h	6 i	
Sortie Requirements Planning	11 k	8 l	6 m	6 n	2 o
Mobility	17 p	14 q	20 r	15 s	3 t
Reception Preparations	7 u	8 v	10 w	9 x	
Command, Control, Communication, & Intelligence	28 z	24 aa	25 bb	25 cc	4 dd
Attrition Management	13 ee	11 ff	6 gg	6 hh	
Survivability and Flexibility Actions	20 ii	16 kk	17 ll	15 mm	3 nn

Fig. 5. Total Matrix Placement Results After the 10-5-4 Rule

Combat Logistics Topics Concentration



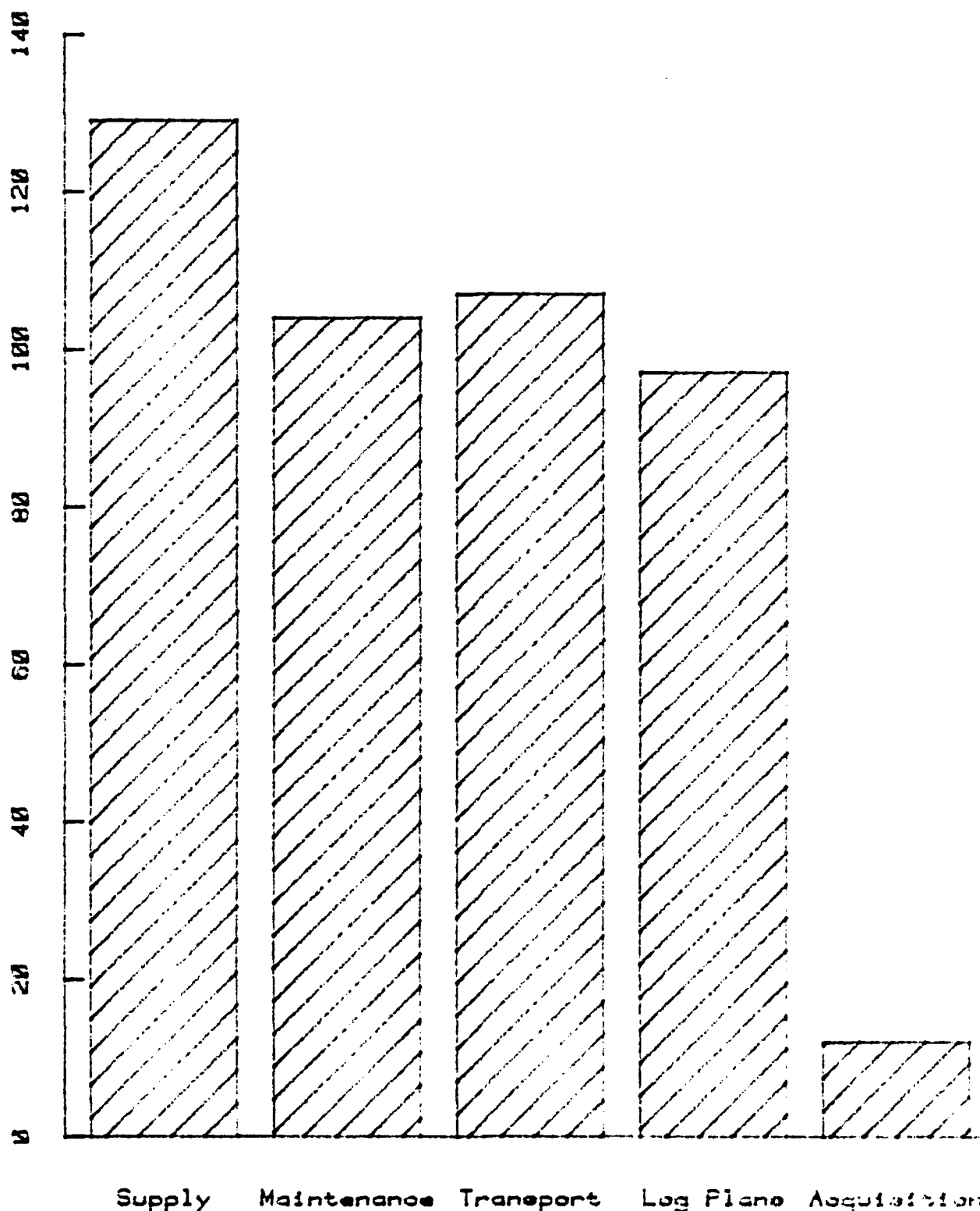
Supply Maintenance Transport Log Plane Acquisition

Fig. 6. Combat Logistics Topics Concentration

Before the 10-5-4 Rule

Before the 10-5-4 Rule

Combat Logistics Topics Concentration



Supply Maintenance Transport Log Plane Acquisition

Fig. 7. Combat Logistics Topics Concentration
After the 10-5-4 Rule

After the 10-5-4 Rule

Combat Logistics Topics Concentration

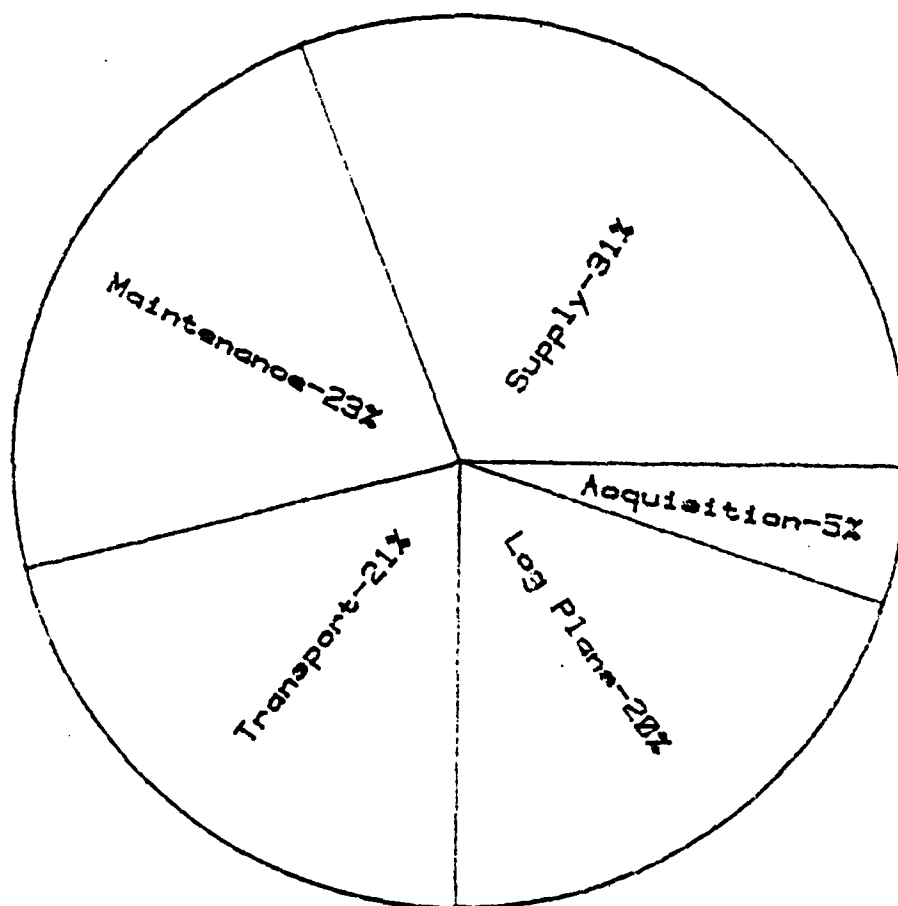


Fig. 8. Combat Logistics Topics Concentration
Before the 10-5-4 Rule

Combat Logistics Topics Concentration

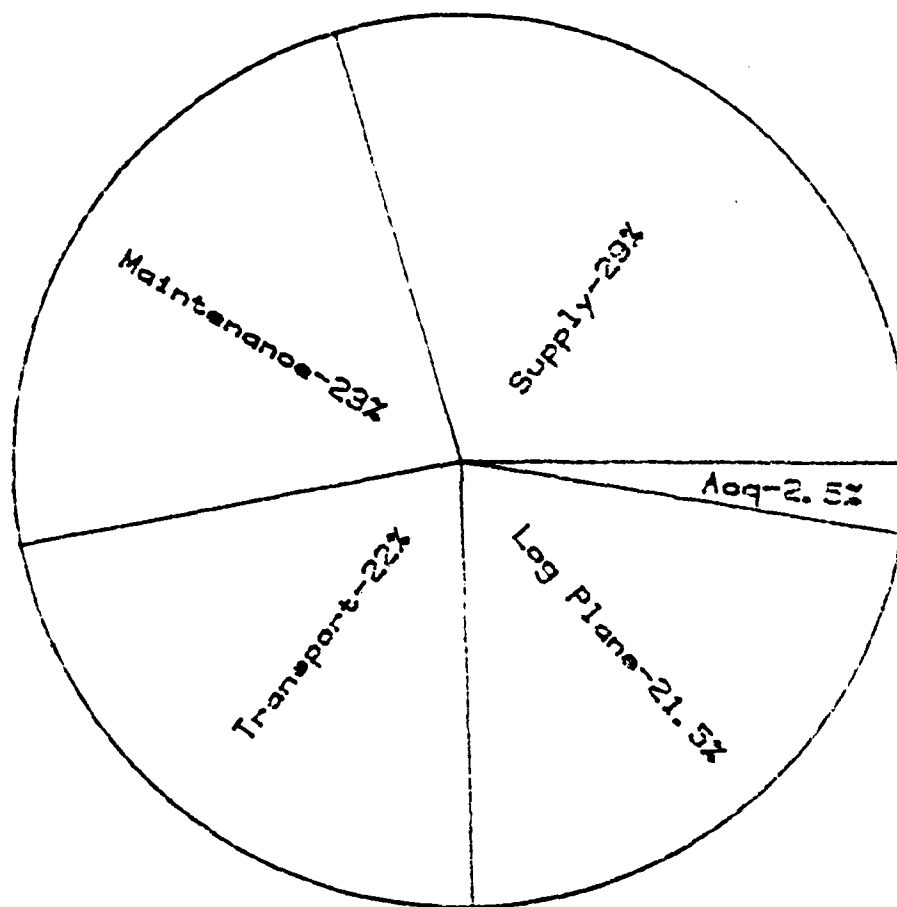


Fig. 9. Combat Logistics Topics Concentration
After the 10-5-4 Rule

Syllabus Development

The topics chosen from the 10-5-4 rule appeared somewhat balanced, except for acquisition. Since the research material did not form a basis for including acquisition, the authors concentrated on the remaining four logistics functions for the syllabus. However, dropping the acquisition area could only be done on the basis of the evidence, not as a conclusive action for the total population of combat logistics topics.

Although acquisition was dropped, the authors found material from other data sources which enhanced the topics chosen by the 10-5-4 rule. Examples of that material are topics on Soviet logistics and psychological impacts on military operations. A nation should know the capabilities of its adversary, and this principle would certainly apply to the field of logistics as well. Thus, Soviet logistics was chosen as an added topic. Also, the Air Force 2000 study stated that Professional Military Education graduates should know about such topics as psychological operations, special operations, intelligence methods and cultural barriers to foreign military presence (56:90). Knowledge about how to cope with wartime stress associated with long hours and combat deaths could prove highly valuable, too. Consequently, a block of class time is devoted to a combat logistics survey. The administration of this questionnaire will help a student discover

his/her perspectives on personal involvement in war, organizational effectiveness, unit morale, and support from other base functions. The remaining time in the course concerns administrative information, tests, and exercises.

CHAPTER IV

SUMMARY, RECOMMENDATIONS, AND CONCLUSION

Summary of Findings

The previous chapter noted several distinct outcomes from the six research steps. First, Steps 1 and 2 results revealed the shortcomings of the "expert" sample. These steps also indicated the value of the worksheets and information from topic contacts on the war environment. The next finding involved results from Steps 3 and 4. This finding confirmed the subjectivity problem, but stated that the matrix generally fulfilled its design to identify combat logistics topics. The last finding discussed matrix exclusions, pointed out poignant war-fighting topics, and offered several analyses of Steps 5 and 6 results. Major elements of the last finding are as follows:

1. There was a scarcity of maintenance topics in the broad impact category.
2. Some topics could be subsets of others.
3. Manpower issues had a strong showing in the broad impact category.
4. C³I was the most active combat readiness activity, having the most topics placed in that matrix row.

5. Both before and after the 10-5-4 rule, supply issues appeared most frequently among logistics functions, acquisition issues were almost nonexistent, and the other logistics functions contained about 22 percent each of the total matrix placements.

6. The acquisition area was dropped and other useful material added to develop the syllabus.

Recommendations

Since this project qualifies as academic rather than applied research, appropriate recommendations will suggest efforts to deepen understanding of the subject area (12:466). Possibilities exist for statistical evaluations and testable, researchable hypotheses. The matrix concept presented, along with the course syllabus, provide an ample basis for further definition of useful combat logistics issues. The most prominent recommendations follow.

Further Study

Further work by AFIT students or other researchers could explore five areas. First, closure on the entire population of combat logistics topics could be approached by soliciting topics from other MAJCOMs. Topics suggested by AFLC were unique in many cases probably because the command is at the forefront of all Air Force logistics support. However, other commands may well provide equally

unique combat logistics initiatives. A package summarizing the results of this research project might be helpful before requesting more topics so as to avoid repetitious suggestions. Substantial benefits are expected, however, from continuing the research with other MAJCOMs. The continued discovery of different logistics procedures used during wartime furnishes an excellent reason for further AFIT research in combat logistics.

Researchers could attempt to improve the combat logistics criteria matrix as a second idea for future academic investigation. The authors developed the combat readiness activities chosen for the matrix, following proven research classification rules. Nevertheless, other concepts and models on combat readiness are available and may supply valuable perspectives. For instance, the Rand report used by the authors emphasized the necessity of measuring readiness in terms of a specific wartime scenario or location. The authors believed this approach to be quite appropriate. Another AFIT thesis team, however, proposed a systems dynamics model measuring the interaction of such combat readiness factors as aircrew manning and aircraft availability (2:v). This systems dynamics model incorporates combat readiness concepts inherent in the matrix developed by this research. Still, a comparison of the systems dynamics model with the combat readiness activity column on the matrix could yield valid

refinements of the matrix. Even a Delphi method could be used to finalize categories of combat readiness. Are all important combat readiness activities included in the matrix? The answer to this question will help ensure the inclusion of all combat logistics topics. Of course, before making any changes in the combat readiness activities, one should consider the major classification principles mentioned in Chapter II under Step 3.

A third area for more academic research regards the acquisition function of logistics dropped from the course syllabus. Time constraints imposed by a two-week course precluded adequate consideration of acquisition or procurement issues. A problem occurred with the "judgment" sampling method in that a good reading on combat acquisition procedures was not obtained. The unfocused literature survey did not reveal substantial material in this area, either, as mentioned in Chapter III. Perhaps a focused literature review and/or experience survey would surface important combat procurement issues. Questions on contractor support in a combat environment remain unaddressed at this point in the research. For instance, how is a transition to organic maintenance handled if that transition occurs during the breakout of a conflict? What weapons system management procedures are used to expedite deployment of systems entering operational status during combat situations? These questions represent some

unexplored areas to be considered for inclusion in a combat logistics body of knowledge.

It is true that the "come as you are" nature of today's warfare could easily disallow effective action in the procurement area. On the other hand, a low-level, Falklands-type conflict might require contractor modifications and special equipment adjustments. As evidenced by the Falklands crisis, war scenarios even today might not require immediate reactions. The role of the acquisition process during the buildup time to a war should be studied further to determine relevant combat logistics topics.

In a related endeavor, the authors suggest that a fourth area for future research should include specific data collection from transportation offices at HQ USAF, Military Traffic Management Command (MTMC), Military Airlift Command (MAC), and Military Sealift Command (MSC). One concept clearly applying to combat logistics is the creation of an aircraft adaptable to both military and civilian cargo requirements. This concept, known as RAMPART, did not appear in the data list, but it does enhance the nation's war-fighting ability. Further research could officially complete the transportation section of combat logistics.

Finally, the last suggestion on future research refers to testable hypothesis development when the matrix model is more mature. When additional data arrives on

transportation topics, acquisition topics, other MAJCOM responses, and matrix improvements, then combat readiness activities could be ranked according to logistics functions. The additional matrix placements from more topics could finish the groundwork necessary for quantitative analysis. At that time, one could attempt inductions, rank testing, or hypotheses about relationships among categories. Performing these steps earlier, though, would risk inaccurate or premature conclusions about the combat logistics body of knowledge.

Future Use of the Matrix

The combat logistics criteria matrix could be used by a prospective instructor as a management tool to review new material for relevance to combat logistics. One HQ USAF contact discussed the importance of this procedure with the authors. He mentioned that some people consider it ridiculous to philosophically debate about the meaning of logistics or what it involves. Constrained by a two-week course, however, an instructor would especially not want to deal with "left field" type subjects in combat logistics. Consequently, the matrix could prove useful for further analysis of new topics or issues in the non-static arena of combat logistics.

Conclusion

It must be remembered that the initial concern of this thesis from page one was the "potential weakening of the war-fighting ability of the service (Air Force)." The authors offered research evidence to substantiate that problem, then focused specifically on war-fighting problems in the field of logistics. Realizing dual needs to continually relate logistics to war-fighting and also to avoid functional specialization, the authors suggested an educational solution. Creating a combat logistics body of knowledge was then justified by citing other opinions and efforts already in progress. After establishing the needs for this research, the authors developed objectives and corresponding questions for an exploratory-type research design. The primary objectives were to establish an analytical vehicle to determine relevance of course topics and to propose a baseline two-week course syllabus from the data. The scope of that research design contained two data collection and four data analysis steps to attain those objectives. After performing all steps, the project produced the combat logistics criteria matrix and the baseline syllabus. Chapter III contained research results and the prior section outlined recommendations on future research.

The benefits of this effort should not exist in isolation. Logistics is not the only area where an

emphasis on war-fighting is needed, although it is one of the most critical. Successful use of military forces requires having all personnel properly trained and equipped to respond (56:90). The professional education necessary to guide military involvement should be acquired in advance, especially since rapid developments may preclude sufficient time for a study of the dynamics of conflict (56:90).

Actually, the increasing emphasis needed on war-fighting reflects on how far from the primary objective the focus of the military forces has shifted (15:33). General Bryce Poe II (USAF, Ret.), former AFLC commander, relates a story representing this focus problem. In the mid 1970s, a conscientious officer at a United Kingdom base almost single-handedly:

. . . sand-bagged communications facilities, built revetments of earth-filled 55 gallon drums around key maintenance shops, and turned surplus pipe lengths into personnel shelters [38:6].

When asked to follow this example, another officer objected on the grounds that it was not cost effective to replace rusted out 55 gallon drums every few years (38:6). General Poe asserts that this response was unfortunately more prevalent. He states that the objecting officer:

. . . was able, bright, and energetic but we had trained out his war-fighting leadership and replaced it with business as usual analytic thinking based on peacetime economics [68:6].

According to General Poe, correcting the problem of peacetime mentality demands that military personnel

develop the ability to "think war," even if they have never been in combat (38:6). How can one develop that ability? General Poe offers some suggestions:

Look at the items on your priority list and try to visualize problems and solutions. Drive and walk the flight line, dispersal, shop and storage areas.

*"If that culvert is blown, how will we move bombs to the line?"

*"What is the alternative to that taxiway?"

*"Could those soft but vital activities operate as well some distance away from the flight line/runway area where we must anticipate collateral damage?"

*"Are we using high value special purpose vehicles where less scarce step vans or pickups would suffice?"

*"Are we living with outstanding backorders when local machine shop manufacture could put the unit back on line" [38:6].

These thought processes and this questioning ability indicate wartime analytical thinking and readiness as a state of mind.

What benefits can be expected from such mentality?

According to the Air Force 2000 study, a strong war-fighting orientation is vital for several reasons, including the following benefits:

Enhances recruiting. The professionalism, esprit, pride, and sense of purpose give visible meaning to the words "Duty, Honor, Country."

Improves retention. People have a clearer understanding of what they are doing, why they are doing it, and how it fits an indispensable part of the mission.

Improves productivity. People have a sense of purpose and commitment to their profession that translates into job satisfaction, which in turn leads to greater productivity.

Improves readiness. Unit cohesiveness resulting from a sense of purpose and mission builds better team-work, self-discipline, and a determination to get the job done right the first time [56:268].

Consequently, the importance of building and perpetuating a war-fighting orientation stands as one of the key issues facing Air Force leaders and the Air Force as an institution (56:268).

The authors submit, then, that teaching a combat logistics body of knowledge constitutes a positive step for building that war-fighting orientation. Such a program implements the Project Warrior mandate for gaining war-fighting familiarity through research and study. Without this educational approach, ignorance of war-fighting can only increase as more and more Air Force personnel lack the war experience base. This combat logistics course will pinpoint wartime/peacetime procedural differences and lead to a better understanding of how to handle the wartime environment. In the final analysis, the course should produce one major realization: that war is not an abstract possibility, but a reality for which all USAF personnel must be ready.

APPENDICES

APPENDIX A
CORRESPONDENCE



DEPARTMENT OF THE AIR FORCE
AIR FORCE INSTITUTE OF TECHNOLOGY (AFIT)
WRIGHT-PATTERSON AIR FORCE BASE, OH 45433

Lieutenant General Earl T. O'Loughlin
Vice Commander
Air Force Logistics Command
Wright-Patterson AFB OH

Dear General O'Loughlin

As part of AFIT's War and Mobilization Plan and our continuing interest in providing a meaningful logistics curriculum, we are developing a course emphasizing combat logistics concepts. We envision this course would provide logisticians with background on actions that could be expected in a wartime situation. Examples of items that might be included are the update and implementation of war plans, emergency supply procedures, munitions positioning, preparation/positioning of Combat Logistics Support Squadrons, actions to be taken at increased DEFCONS, etc.

To ensure that our new course curriculum is supportive of the needs of the logistics community, we request AFLC ideas on concepts or subjects that should be addressed in a combat logistics course. In addition, request an AFLC point of contact be established to assist us in gathering data on AFLC desired subjects. Our project officer is Lt Col Steve Mohn, AFIT/LSMA, ext. 54025.

Thank you for your interest in keeping AFIT abreast of current logistics thinking.

Sincerely

Signed

H. L. EMANUEL
Major General, USAF
Commandant



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE LOGISTICS COMMAND
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13 OCT 1982

Office of the Vice Commander

Major General Herbert L. Emanuel
Commandant
Air Force Institute of Technology
Wright-Patterson Air Force Base, Ohio 45433

Dear General Emanuel

We appreciate your interest in presenting current logistics thinking in AFIT. Your desire for AFLC input to the Combat Logistics Course is a step in the right direction to ensure that future planners in USAF consider the logistics train. We feel that a direct interface between the experienced logisticians from AFLC and the students in AFIT will result in a greater understanding for both.

In order to fill your request, I have directed my staff to provide the support needed as outlined in your letter of 17 September 1982. The AFLC project officer, Major George Elwood, AFLC/XRXXI, ext. 72608, will be in contact with your project officer to work out the details.

Again, thank you for considering AFLC for assistance in this matter.

Sincerely

Earl
EARL T. O'LOUGHLIN
Lieutenant General, USAF
Vice Commander



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE LOGISTICS COMMAND
WRIGHT-PATTERSON AIR FORCE BASE, OHIO 45433

23 December 1982


REPLY TO
ATTN OF: XR

SUBJECT: AFIT Combat Logistics Course

TO: AFIT/LS

The attached list of topics is provided in response to your 17 September 1982 request for subjects to be addressed in a combat logistics course. Each topic group has a point of contact for further information. The AFLC central point of contact is Major George Elwood, XRXXI, 72608. Please have your staff contact him for further assistance.

FOR THE COMMANDER


CHARLES P. SKIPTON
Brigadier General, USAF
DCS/Plans and Programs

1 Atch
AFLC Combat Logistics Course
Input

AFLC Combat Logistics Course Input

	<u>SUBJECT</u>	<u>DCS OPR</u>	<u>OPR OFFICE SYMBOL</u>	<u>OPR TEL. NUMBER</u>
1.	UNITREP, Its Makeup and Role	John Glaser	LOACC	73030
2.	SYNA-METRIC Model	"	"	"
3.	WWMCCS and WIN, Its Role during War Games	"	"	"
4.	Aircraft Battle Damage Repair Manuals	"	"	"
5.	Weapon System Management	"	"	"
6.	Red Force Center	Capt Santee	LOEE	76751
7.	Embedded Computer System	Mark van den Broek	LOEE	76751
8.	Sanitized Battle Staff Briefing	Lt Col Mayberry	LOO	77716
9.	Command and Control in AFLC	"	"	"
10.	PACER COMMAND-Reorganization for Readiness	"	"	"
11.	PACER Prepare	Col R.L. Sims	LORA	73260
12.	WARS	"	"	"
13.	Fuels Readiness	"	"	"
14.	Munitions Organizations	"	"	"
15.	Maintenance PDM Compression	"	"	"
16.	Transportation Mobility Taskings	Bill Haas	LOZA	76703
17.	AFLC Wartime Aerial Port Ops	Tom Spade		76703
18.	Wartime Intransit Visibility of Non Unit Resupply Cargo	Jerry Riffe		76703
19.	Utilization of CLSS During Surge	1st Lt Frey		76703
20.	Aircraft Battle Damage Repair, a Force Multiplier	SMSgt Roeder	MAWW	77446
21.	COMPES (MANPER-B)	Lt Col Binzer	MPX	77503

	<u>SUBJECT</u>	<u>DCS OPR</u>	<u>OPR OFFICE SYMBOL</u>	<u>OPR TEL NUMBER</u>
22.	European Work Load Program	Capt Mitchell	PMP	76754
23.	European Participating Group	"	"	"
24.	European Distribution System	"	"	"
25.	Combat Supplies Management System	"	"	"
26.	Weapon System Briefings	"	"	"
27.	Capability Assessment Modeling Applications	Col Saxton	XRS	73201
29.	WARS Development/Status /Applications	"	"	"
30.	Command, Control, Communications, & Intelligence	Lt Col Ennis	XRQC	74468
31.	Industrial Preparedness	Paul Jasper	XRPD	72536
32.	Wartime Engine Requirements, Policy and Procedures	John Fitzgerald	LOP	72339

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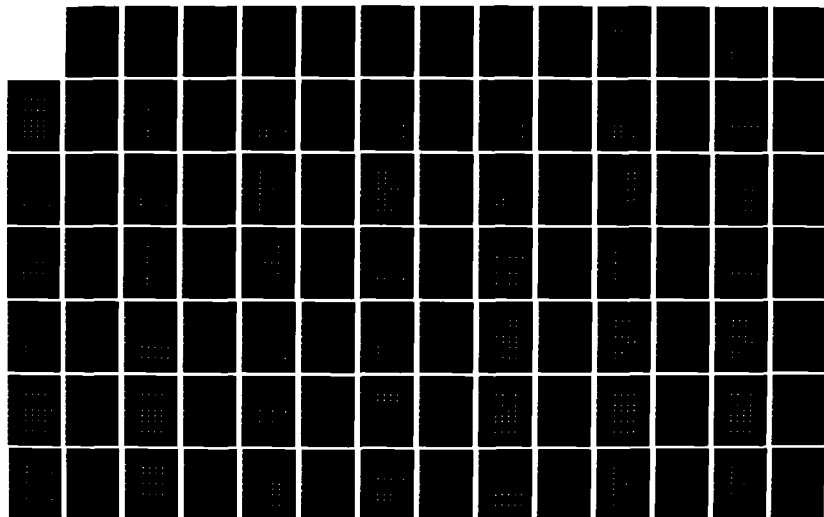
AN EDUCATIONAL METHODOLOGY FOR ENHANCING FAMILIARITY
WITH UNITED STATES A. (U) AIR FORCE INST OF TECH
WRIGHT-PATTERSON AFB OH SCHOOL OF SYST.
G H HANDY ET AL. SEP 83 AFIT-LSSR-44-83

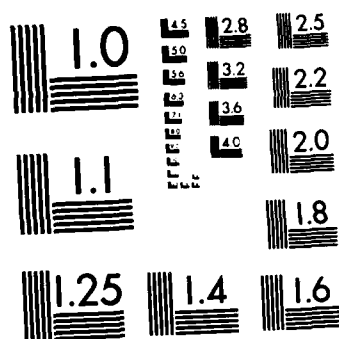
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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON, D.C. 20330

REPLY TO
ATTN OF

LEY

5 OCT 1982

SUBJECT: Combat Logistics Course (Your Ltr, 13 Sep 82)

TO: AFIT/LS

1. Your proposed Combat Logistics Course is a timely undertaking and will focus thinking on the many challenges we face in war planning. These range from innovative, detailed, short term workarounds needed for austere theater operations, to the more generalized strategic mind set advocated in Project Warrior. Attached is a list of items you may consider as you develop the course. To keep the course in step with our preparations for the future, I suggest that you consider the concepts of projects Rivet Ready and Project 2000 as well as those in the WMP-1, Annex E and the JOPS/JDS. Our action officer will be glad to work with you in formulating a systematic approach and relating how the maintenance and supply functional areas work with the other Air Staff disciplines on a day-to-day basis.

2. I would be interested to know about any creative suggestions for improving combat logistics that the faculty and students are able to offer, from time to time, as a result of their studies.

3. Our action officer is Capt Chisholm, AF/LEYM, AUTOVON 227-1493/1431

FOR THE CHIEF OF STAFF

GORDON P. MASTERSON
Brigadier General, USAF
Director, Maintenance and
Supply

1 Atch
Combat Logistics Course
candidate item list

PROPOSED TOPICS FOR COMBAT LOGISTICS COURSE

- AF/LEYSP: Maj Agnor, AUTOVON 225-2409
 - Combat Supply Procedures (AFM 67-1, Vol II, Pt three)
 - Assured Distribution (e.g. European Distribution System)
 - Assured Communications (Log C³)
 - Wartime Resupply Planning (WMP-1, Annex E, Logistics)
 - War Reserve Materiel Concepts (AFM 67-1, Vol I, Pt one, Ch 14)
 - Mobility Equipment Concepts
 - Special Logistics Support Procedures (AFM 67-1, Vol II, Pt two, Ch 14)
 - Combat Supply System
 - Mobile Supply Computer Support (Penny counter)
 - Post - Post Procedures
 - Combat Follow-On Supply Support System (CFOSS)
 - Wartime Processing
 - Joint Operations Supply Planning
- AF/LEYW: Lt Col Corley, AUTOVON 227-6984 (secondary POC)
(USAFE/LGWS: Lt Bates, Ramstein 6187/6396, primary POC)
 - Relationship of CMD Ammunition Control Point (ACP) to Tactical Air Control Center During Combat Operations
 - Role of ACP Personnel in Preplanning Prior to OPLAN Execution
- AF/LEYSF: Capt Herrick, AUTOVON 225-9798
 - Time Phased Force Deployment Lists (TPFDLS)
 - Joint Strategic Capabilities Plan (JSCP) (Annex B & S)
 - USAF War and Mobilization Plan (WMP-1, WMP-3, WMP-5)
 - JCS Reporting Requirements (AFR 55-15 UNITREP)
 - Fuels Support

- WRM levels
 - Air Transportable Fuel Systems
 - Hot Refueling, Combat Quick Turns (Integrated/Hot)
- AF/LEYY: Maj Guy, AUTOVON 227-9231
 - Aircraft Battle Damage Repair (ABDR)
 - Maintenance in NBC Environments
 - Reduction of Maintenance Personnel Casualties (Survivability)
- AF/LEYM: Capt Chisholm, AUTOVON 227-1493/1431
 - Joint Operational Planning System (JOPS)
 - Joint Deployment System (JDS)
 - Unit Type Codes (UTCs)
 - Time-Phased Force Deployment Data (TPFDD)
- Manpower Sourcing
- WARFIL and WARSKILL Programs
- Individual Mobilization Augmentees (IMAs)
- Innovative Maintenance Management Alternatives for Combat
- Crash Recovery/Runway Clearing
 - Deferred and "Quick Look" Maintenance
 - Decontamination
 - Field Repair of XB-3 Items
 - Workload Scheduling
 - Emergency Support to Combat Support Group
 - Alternate Equipment Utilization (workarounds).



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON, D.C. 20330

28 OCT 1982

REF: TO
ATTN OF

LEXY

SUBJECT

AFIT Combat Logistics Course

TO:

AFIT/LS

1. Thank you for the opportunity to contribute to the curriculum of your proposed course on Combat Logistics concepts. A course of this nature which can provide students with an understanding of how logistics contributes to the overall war effort and wartime requirements, rather than our peacetime capabilities, is just what we need.

2. Inputs have been submitted by the three LEX Divisions most concerned with this aspect of our warfighting capabilities and, rather than distill, and perhaps lose some of the emphasis that they might place on the various subject headings, their inputs and their POC have been included in full in the attachment.

3. Our POC for future Directorate correspondence is Wg Cdr M.J. Jones, AF/LEXY, AV 225-6727. However, please deal direct with Divisional OPRs when developing their curriculum inputs.

FOR THE CHIEF OF STAFF

RICHARD L. OLSON, COL, USAF
Chief, Logistics Concepts Div
Dir of Log Plans and Programs
DCS/Logistics & Engineering

1 Atch
Curriculum Inputs

cc: AF/LETX
AF/LEX~~X~~
AF/LERX
AF/LEYM (Capt Chisholm)

Combat Logistics Course - Suggested Curriculum Inputs

1. LETX - POC, Lt Col D.M. Rucker, AV 227-7332

Assured Theater Distribution of Spares
Civil Airlift Augmentation
SWA Prepositioning
Near-Term Preposition Force (NTPF)
Strategic Mobility: Sealift, Airlift, Prepositioning
Intra-Theater Airlift
Non-Unit Resupply and Personnel Movement
Integrated Lines of Communication (ILOC)
- NATO Mutual Support Act
- U.S. - Canadian ILOC
- Cooperative Airlift Agreements
NATO Logistics Concepts - MC/75
Host Nation Support
Logistics Force Structuring
Crisis Allocation of Strategic Lift Capabilities
The Joint Operational Planning System
UWAF War and Mobilization Plan

2. LEXX - POC, Capt McCoy, AV 225-2175

Non-Unit Resupply
Post D-Day Distribution
- Initial Preplanned Supply Support
Prepositioning Concepts
Mobilization Planning
Industrial Responsiveness
Civil Reserve Air Fleet
Strategic Mobility
Joint Logistics Over the Shore
Sortie Surge
Survival, Recovery and Reconstitution
Contingency Operation/Mobility Planning and Execution System
Standard Air Munitions Package
Standard Tanks, Racks, Adapters and Pylons Package
Pacer Flex
Harvest Bare/Harvest Eagle
War Readiness Spares Kit/Base-Level Self-Sufficiency Spares
Capability Reporting
Materiel Attrition
Air Base Survivability
Logistics Operations in CBN Environment
Casualty Reporting
War Mobilization Activities (Annex E to WMP-1)
Logistics Activities in Degraded Communications
Wartime Retrograde
Wartime Host Nation Support
Wartime Foreign Military Sales Procedures

NATO Logistics in Wartime
Combat Logistics Systems
NATO M
Collocated Operating Bases (COBs)

3. AF/LERX - POC, Maj ~~W.A.~~ Worley, AV 227-0126

Logistics Support for Combat Quick Turns
Decentralized Base-Level Maintenance Concepts and Operations
Use of Centralized Intermediate Logistics Concept (CILC) to
Support "Lean and Mean" Operating Locations

Prepositioning versus Increasing Deployment Capability - Pros
and Cons of Both

Dispersal Techniques and Hardening to Enhance Logistics Facility
and Equipment Survival

Aircraft Battle Damage Repair Capability
In-Shelter Refueling of Aircraft

APPENDIX B
TOPIC WORKSHEETS

TOPIC 1: Unit Status and Identity Report (UNITREP) (14; 57)

TOPIC SYNOPSIS:

A combat readiness reporting system in which four resource areas are measured, rated, and reported: personnel, equipment and supplies on hand, equipment readiness, and training. Unit (base or wing) commanders use information from these four areas along with non-measured information to obtain an overall unit C rating.

COMMENTS:

Sometimes highly motivated unit commanders consider a particular shortfall something that can be overcome quickly. This may result in a higher C-rating than would normally occur. If several units use this approach, the entire logistics support system may be in danger of being overstressed. To obtain an accurate assessment for readiness, AFLC must at least consider a more pessimistic view in planning for wartime scenarios.

CLASSROOM MATERIAL SOURCES:

TOPIC 1: Unit Status and Identity Report (UNITREP)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 2: DYNA-METRIC Model (14; 52:35)

TOPIC SYNOPSIS:

An analytical tool used to predict spares requirements which would supplement the war reserve spares already allocated to fight units.

COMMENTS:

The algorithm itself may not be practical to teach in depth in a course with students of diverse logistics experience and backgrounds. However, it may be useful to talk about its major features and would be especially appropriate to mention what AFLC is doing with the model. The DYNA-METRIC tool is used in the AFLC Combat Analysis Capability (CAC), which is an analysis system designed to show how alternative logistics policies and resources impact weapon system combat capability for any specified wartime scenario.

An example of a situation CAC/DYNA-METRIC would deal with involves a scenario where communications have been disrupted making it impossible to rely on combat commands to indicate their resupply needs (a pull system). The CAC/DYNA-METRIC system would have already projected likely spares requirements as a decision basis for further allocations regardless of communications disruptions (use of a push system). The main point from a wholesale level must have a "decision oriented interactive data base that will show him shortage impacts on all engaged and non-engaged forces resulting from resource allocations decision [52:36]."

CLASSROOM MATERIAL SOURCES:

Excellent article in Logistics Spectrum, Summer 1983, pp. 35-40.

TOPIC 2: DYNA-METRIC Model

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 3: Worldwide Military Command and Command System
(WWMCCS) (14; 21)

TOPIC SYNOPSIS:

























The WWMCCS consists of facilities, equipment, communication procedures, and personnel that provide the technical and operational support involved in the function of command and control of U.S. military forces. The system is comprised of:

1. The National Military Command System (NMCS).
2. The subsystems of the commanders of unified and specified commands.
3. The subsystems of the service headquarters.
4. The subsystems of the commanders of component commands.
5. Those elements of the subsystem of other DOD agencies and offices which directly support the command and control functions; e.g., DNA, DIA, and DCA.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TOPIC 3: Worldwide Military Command and Command System
(WWMCCS)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	 a	 b	 c	 d	 e
Initial Unit Condition Rating	 f	 g	 h	 i	 j
Sortie Requirements Planning	 k	 l	 m	 n	 o
Mobility	 p	 q	 r	 s	 t
Reception Preparations	 u	 v	 w	 x	 y
Command, Control, Communication, & Intelligence	 z	 aa	 bb	 cc	 dd
Attrition Management	 ee	 ff	 gg	 hh	 ii
Survivability and Flexibility Actions	 jj	 kk	 ll	 mm	 nn

TOPIC 4: Innovative Maintenance Management Procedures (5)

TOPIC SYNOPSIS:

This area involves a host of practices that would be used to expedite sortie generation and appears to be one of the most critical areas for combat logistics. Examples of issues or methods that should be addressed are listed below in the COMMENTS section.

COMMENTS:

Examples:

Crash Recovery: Increased equipment use and battle damage will change the rare peacetime crash situation. Three to four crashes per day at an airfield might not be uncommon. Flat tires and landing gear problems may be more frequent. Civil engineering, fire department, and maintenance personnel must anticipate the problems associated with these situations.

Decontamination: Depending on damage/operational environment, maintenance planners must prepare for this manpower intensive operation. This type of project lends itself well to application of WARSKIL objectives. Cross-training those in non-combat AFSCs may be needed to meet the numbers of people required to adequately clean the area/airplane.

Deferred/Quick Look Maintenance: A fact of life in combat situations. Skip the routine maintenance. Instead of a two-hour preflight, check the gas and tires, then get off the ground. Obviously, safety is a must, but the list of critical operational subsystems may decrease in combat before an aircraft is cleared. Also, one must be careful to note the interaction of subsystems.

CLASSROOM MATERIAL SOURCES:

TOPIC 4: Innovative Maintenance Management Procedures

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
M obility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
A ttrition M anagement	ee	ff	gg	hh	ii
Survivability and Flexibility A ctions	jj	kk	ll	mm	nn

TOPIC 5: Weapon System Management (14)

TOPIC SYNOPSIS:

This general logistics area is experiencing a change in general reorientation to readiness AFLC. The general mind set here must be to think in terms of war. A related project, called the Weapon System Management Information System, will give the weapon system program managers much better visibility over their systems' readiness, reliability, maintainability, and sustainability data. It will also give them real time access to such things as supply requirements, impact of item shortages, or causes of deficits.

COMMENTS:

Applicability for a combat logistics course will be enhanced if this area is broken down into specific actions. A good example would be topic 2 - DYNA-METRIC.

CLASSROOM MATERIAL SOURCES:

"General" material on the change in philosophy could be obtained from the WPAFB Skywriter of August 5, 1983. The interview with the AFLC commander provides some insight on this initiative.

TOPIC 5: Weapon System Management

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 6: Red Force Center (45)

TOPIC SYNOPSIS:

As part of an overall AFLC Electronic Warfare (EW) initiative, Red Force Center is an EW ground simulator developed at Sacramento.

COMMENTS:

The conversation with Capt Santee revealed some combat logistics issues involving the acquisition function and relating to more than just the Red Force Center system. Evidently, in the reorganization for readiness presently occurring, AFLC has been acquiring an organic developmental capability in software programming. This action conflicts with traditional thinking over AFSC development and AFLC support roles, but shows promising benefits for readiness. For instance, commanders in the past may have needed to requisition new hardware for a change in system capability. Now, however, some systems in the electronic communications area can be reprogrammed by the user to obtain information in different and more useful formats. Items such as mission data, map coordinates, or trajectory information can be updated instantaneously with different inputs on weather, etc. Operations centers can be established where staff members are geared to respond to field commander needs for this reprogramming capability in as little as 72 hours. The sensitive, or more difficult areas of reprogramming receive the attention of the engineering analysts and require long-term processing.

CLASSROOM MATERIAL SOURCES:

Capt Santee has briefings from Sacramento and contractor sources that were given to various AFLC echelons to explain these capabilities. Another contract in this area is Mark van den Broek at the same number.

TOPIC 6: Red Force Center

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 7: Embedded Computer System (ECS) (55)

TOPIC SYNOPSIS:

A computer system which is an integral part of a larger weapon system. This area is different from Automated Data Processing (ADP) equipment which can be of the "stand alone" variety and typically processes financial or personnel data. A systems view of the embedded computer system could also include its support environment.

COMMENTS:

Wartime issues involve similar ideas contained in topic 6, Red Force Center.

CLASSROOM MATERIAL SOURCES:

Depending on the approach an instructor intends to use, several sources might be available. DOD 5000.29 is technical, but ASE-TR-79-5028 under contract number F33657-76-CE-0677 is a guidebook that introduces ECS to new SPO personnel. Also, there is a PCE survey course in the AFIT engineering building on ECS which tells ECS personnel what they should know from a management standpoint. Other contacts are Capt Larry Sweeney, AFSC/ALR at AUTOVON 858-5731 and Phil Babel, ASD/EN at AUTOVON 255-3656.

TOPIC 7: Embedded Computer System (ECS)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 8: Battle Staff Briefing (Sanitized) (28)

TOPIC SYNOPSIS:

Briefings given to the AFLC commander every Tuesday. Information briefed includes weather, intelligence, and primary weapons systems assessments. Slides show percentages of weapons systems available to meet particular war plans and "get well" dates. Information is given to Air Staff, other commands, and DLA.

COMMENTS:

AFLC uses the same format for wartime since the briefing is already geared to show supportability. Briefings would be monitored closely as daily updates showed resources being used much faster.

CLASSROOM MATERIAL SOURCES:

Unclassified versions of the briefing slides would be very informative to show students how AFLC is kept aware of weapons system status.

TOPIC 8: Battle Staff Briefing (Sanitized)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	i
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	v
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 10: Pacer Command Reorganization for Readiness (28)

TOPIC SYNOPSIS:

Pacer Command is a set of programs designed to move AFLC quickly and effectively toward weapon system support. A major subset called Pacer Align is designed to reorganize AFLC to emphasize weapon system management and war planning. System Program Managers are given both the authority and accountability to provide coherent management of their respective weapon systems. A Liaison Program has been established between AFLC and the other major commands in order to keep better informed of logistical needs and redressing support problems before these problems can seriously impact combat capability. Also, the creation of the Logistics Operations Center (LOC) assists in monitoring AFLC's day-to-day activities and takes corrective action when called for. This frees the headquarters staff, enabling them to deal with more pressing challenges.

COMMENTS:

Other initiatives in Pacer Command include a substantial command post upgrade, acquisition of WWMCCS capability for AFLC and its ALCs, and AFLC C³I improvements. These developments demonstrate the size of the effort to orient the command to wartime support.

CLASSROOM MATERIAL SOURCES:

Interview articles with General Mullins are good. Additional contact is Jim Culpepper at 73218.

TOPIC 10: Pacer Command Reorganization for Readiness

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 11: Pacer Prepare (19)

TOPIC SYNOPSIS:

This is the interim model being used until WARS becomes operational. It was designed originally for a one-time run, but continues to function since WARS implementation has been delayed until early 1984.

COMMENTS:

This is a two-year old program intended to cover the transition period to WARS. Since WARS will be operational soon, Pacer Prepare should not be included in a combat logistics course except as a reference.

CLASSROOM MATERIAL SOURCES:

TOPIC 11: Pacer Prepare

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 12: Wartime Assessment Requirement Simulation
(WARS) (54)

TOPIC SYNOPSIS:

WARS is a model tool used for predicting requirements for Air Force aircraft recoverable spares (budget program 1500 items). Although the system is still in the research and development phase, current projections have it operational in the 1986 time frame. This tool differs from DYNA-METRIC in that WARS looks to the future and incorporates production lead times to determine aircraft spares requirements. DYNA-METRIC shows today's impact on spares flow for various logistics policies, given specific requirements from an actual combat scenario.

COMMENTS:

WARS would predict higher failure rates during wartime and short pipelines. The model also addresses some concerns on the transition from peace to war. For instance, how does one expedite items still in peacetime repair schedule and incorporate them into the wartime flow? Also, the system will have a capacity for greater detail in wartime.

CLASSROOM MATERIAL SOURCES:

TOPIC 12: Wartime Assessment Requirement Simulation (WARS)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 13: Fuels Readiness (63)

TOPIC SYNOPSIS:

Fuels readiness is the determination whether existing petroleum assets and issue capability can support war plans or options, or whether additional assets, equipment, or facilities need to be provided. The Combat Fuels Management System (CFMS) assembles the required data and assists in providing information that can be directly used to draw conclusions about supportability.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TOPIC 13: Fuels Readiness

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	● a	b	c	d	e
Initial Unit Condition Rating	● f	g	h	i	j
Sortie Requirements Planning	● k	l	m	n	o
Mobility	● p	q	● r	s	t
Reception Preparations	● u	v	w	x	y
Command, Control, Communication, & Intelligence	● z	aa	bb	cc	dd
Attrition Management	● ee	ff	gg	hh	ii
Survivability and Flexibility Actions	● jj	kk	ll	mm	nn

TOPIC 14: Munitions Organizations (61)

TOPIC SYNOPSIS:

















A maintenance organization with unique functions to include those dealing with the safety and security of nuclear weapons, the accountability of nuclear and non-nuclear munitions, and the Explosive Ordinance Disposal (EOD) function. Munitions functions must also insure maximum availability of serviceable WRM munitions to support contingency operations.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

AFR 66-1, Chapter 10.

TOPIC 14: Munitions Organizations

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	 a	 b	c	d	e
Initial Unit Condition Rating	 f	 g	h	i	j
Sortie Requirements Planning	 k	 l	m	n	o
Mobility	 p	q	 r	 s	t
Reception Preparations	u	 v	w	x	y
Command, Control, Communication, & Intelligence	 z	 aa	bb	cc	dd
Attrition Management	ee	 ff	gg	hh	ii
Survivability and Flexibility Actions	 jj	 kk	 ll	mm	nn

TOPIC 15: Programmed Depot Maintenance (PDM) Compression
(32)

TOPIC SYNOPSIS:

This system shows the status of weapons systems in a depot repair mode. The Aircraft and Missile maintenance and Production Compression Report (AMREP) is an ALC document telling AFLC get well times for each weapon system. It is applicable for peacetime daily production information as well as wartime. In wartime, this report would help answer questions such as: Of the 24 B52s in depot, how many can we have out in D+6? Obviously, in wartime, the objective is to get aircraft out of the depot repair cycle faster to replace aircraft already damaged or destroyed in combat.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

AFR 66-3 outlines PDM compression responsibilities for AFLC, USAFE, and other commands.

AFLCR 55-305 contains AMREP reporting instructions on AFLC supported systems.

RCS#-HAF-LEX (AR) 7019.

TOPIC 15: Programmed Depot Maintenance (PDM) Compression

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 16: Transportation Mobility Taskings (16)

TOPIC SYNOPSIS:

This area composes an important subset of the overall mobility picture. The transportation control unit supervises cargo and passenger terminals as well as sub-motor pool operations. Transportation mobility activities included coordination with the MMC, hazardous cargo checks, load planning, aircraft loading, cargo preparation / palletization and ramp supervision.

COMMENTS:

This area should be discussed in relation to overall mobility procedures. AFLC peculiarities could be brought into the course, especially the fact that the ALCs become standby or backup aerial ports during deployments.

CLASSROOM MATERIAL SOURCES:

Lowry AFB Logistics Plans and Programs Course material on mobility; AFR 71-4 extracts; AFR 28-4 (presently being rewritten to match AFR 76-6); and AFR 76-6 and Joint Regulation 76-6.

TOPIC 16: Transportation Mobility Taskings

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 17: AFLC Wartime Aerial Port Operations (11; 37)

TOPIC SYNOPSIS:

AFLC operates standby and backup aerial ports which can function as wartime air freight terminals.

COMMENTS:

Primary differences for combat logistics involves:

1. Higher utilization rates at the ports as freight volume increases.
2. Need for increased throughput capacity in shorter time frames.
3. Loading of more civilian aircraft possibly.
4. More materials handling equipment.
5. More augmentees to handle the operations.

A big issue here also is the interface requirements between deploying units and the Aerial Port of Embarkation (APOE). Responsibility divisions here are critical. If a unit should have to stay overnight to meet the next day's airlift, someone has to plan for billeting, care of unit equipment, etc., during that period. Notional taskings and CONUS movements of units require extraordinary coordination to avoid bottlenecks.

Future research in this area should refer to the results of 29 August 1983 JCS meeting to discuss an algorithm for aerial port throughput capability. The objective in developing the algorithm is to enter a more realistic assessment of aerial port capacities into the Joint Operational Planning System.

CLASSROOM MATERIAL SOURCES:

MAC Pamphlet 55-41, Load Planning for CRAF.

TOPIC 17: AFLC Wartime Aerial Port Operations

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 18: Wartime Intransit Visibility of Non-Unit
Resupply Cargo (42)

TOPIC SYNOPSIS:

This issue deals with the problems of tracking non-unit cargo on a follow-on basis, after initial prepositioned stocks require replenishment. TPFDD information only supplies aggregate estimates on what might flow from the ALCs, but a NATO commander, for instance, might need to know exactly what is on the way. Thus, an interface is being developed with the JDA.

COMMENTS:

How can we find out status/location on these items (non-unit resupply)?

Based on lbs/man/day or other computations, how much airlift should be set aside at Tinker AFB for non-unit resupply cargo?

CLASSROOM MATERIAL SOURCES:

Issues should be discussed in connection with JOPS and War Planning.

TOPIC 18: Wartime Intransit Visibility of Non-Unit
Resupply Cargo

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 19: Combat Logistics Support Squadrons (CLSS) (27)

TOPIC SYNOPSIS:

Mobile maintenance teams which specialize in temporary repair of damage aircraft in order to maximize the number of aircraft available to support the wartime mission. These teams deploy to forward locations and provide technical assistance, battle damage assessment, and rapid battle damage repair. The deployments are determined by the Air Force War and Mobilization Plan and depends on the type and quantity of aircraft bedded down at any given location.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

Lecture by Donald Voys from AFWALD/ASD would prove informative.

TOPIC 19: Combat Logistics Support Squadrons (CLSS)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 20: Contingency Operation/Mobility Planning and
Execution System (COMPES) (1:15)

TOPIC SYNOPSIS:

An Air Force automated data system (ADS) designed to enhance USAF operational readiness posture by providing a standard planning system for contingency planning and execution.

COMMENTS:

The objectives of COMPES are to assist Air Force planners at all levels to select, deploy, and monitor contingency forces in such a manner as to provide optimum response with minimum resource commitment. COMPES standardizes support of JOPS, standardizes mobility planning and procedures throughout the Air Force, standardizes OPlan execution tailoring procedures, simplifies training of mobility and contingency planning personnel, improves residual capability assessment, aids force allocation, allows better utilization of availability airlift and provides automated support for contingency planners.

CLASSROOM MATERIAL SOURCES:

TOPIC 20: Contingency Operation/Mobility Planning and Execution System (COMPES)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 21: European Work Load Program (31)

TOPIC SYNOPSIS:

An acquisition and maintenance program in which contracts for repair and replacement of support items for European-based weapons systems are let to European companies only. This program is designed to decrease the supply pipeline time and increase readiness as well as creating greater understanding with European allies. Presently 25 contracts are let to European companies for 90 support items.

COMMENTS:

This program will enable supply and maintenance systems to continue with little interruption in time of combat surges. AFLC is presently trying to establish work load programs in the Pacific. However, the process of obtaining memorandums of understanding (MOU) has been slow and it is not known when the program will become operational.

CLASSROOM MATERIAL SOURCES:

TOPIC 21: European Work Load Program

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 22: European Distribution System (EDS) (9)

TOPIC SYNOPSIS:

EDS is a cost effective Air Force distribution program designed to redistribute spares and engines to support tactical weapon systems in Europe which cannot be responsively distributed between main operating and Collocated Operating Bases to meet required wartime sortie levels of NATO's flexible response strategy.

COMMENTS:

EDS is presently in the development stage of the life cycle. Three primary concerns still being addressed are the delivery aircraft itself, the forward prepositioning of spares in the European theater, and Logistics C³. Implementation of the system is projected to be in the first quarter of CY85.

CLASSROOM MATERIAL SOURCES:

Mr. Ron Chalecki, Deputy Director of the EDS Program Office, gives an excellent lecture on EDS.

TOPIC 22: European Distribution System (EDS)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 24: Combat Supplies Management System (CSMS) (62)

TOPIC SYNOPSIS:

The CSMS provides a WRM reporting system for the Standard Base Supply System (SBSS), to establish and maintain a current major command DSMS system containing WRM and like peacetime operating stock data base. This provides the major command with current data for WRM management, capability assessment model, and redistribution of assets for WRM shortages. The CSMS reporting system is mandatory at base/MAJCOM level per HQ USAF/LEYS.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

AFM 67-1, Volume II, Part Two, Chapter 20.

TOPIC 24: Combat Supplies Management System (CSMS)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 25: Weapons System Briefings (31)

TOPIC SYNOPSIS:

These are quarterly briefings called Program Assessment Reviews (PARs). The briefings encompass general reports on particular weapon or support systems, i.e., C-141, material handling equipment, etc. Topics on each system include but are not limited to financial reports, system analysis, contract status, and subsystems. These briefings are normally conducted by the item manager, system manager, Systems Control Officer, or Deputy Program Manager for Logistics and is given at various command levels, normally from HQ AFLC to the Air Staff.

COMMENTS:

Although these briefings are normally classified, unclassified portions of the briefing script and unclassified slides would be useful to give the students a general idea of the briefing's contents.

CLASSROOM MATERIAL SOURCES:

TOPIC 25: Weapons System Briefings

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 26: Capability Assessment Modeling Applications
(39)

TOPIC SYNOPSIS:

An overall category dealing with recoverable items or engine spares. DYNA-METRICS/WARS fit in here and TJEMS/MJEMS are models for engine spares predictions.

COMMENTS:

Most models assume steady state factors/inputs during peacetime. In wartime, these models become dynamic, using updated factors on a daily basis.

CLASSROOM MATERIAL SOURCES:

Mr. Madden in DCS/Plans and Programs has worked with Mr. James Meadows, AFIT instructor, on briefings in this area. Also, Curt Neumann of AFLC's Capability Assessment Division is an excellent contact.

TOPIC 26: Capability Assessment Modeling Applications

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 27: Command, Control, Communications, and Logistics
(C³L)

Command, Control, Communications, and Intelligence (C³I) (26)

TOPIC SYNOPSIS:

C³L is based on the Logistics Information Management Support Structure (LIMSS), which is a data base the MAJCOMs can input their logistical needs. This system is not part of the WWMCCS and is overseen by ASD at Hanscom AFB.

In regards to C³I, many subtopics could be addressed in this broad category. Examples: AUTOVON, AUTOSEVOCOM, Defense Data Network (DEN), ARPANET, fiber optics, videodisk, videotext, satellite transmissions, computer security, jamming and suitability of current communication equipment for logistics needs. AFLC is currently upgrading its logistics C³I capability through acquisition of WWMCCS capability, a command post modernization, and an Intersite (ALC) Command Post Communication Network with state-of-the-art graphics and communication equipment.

COMMENTS:

Good questions to be asked here might include: How does the ARPANET technology of the DDN improve encryption? How will requisitions be transmitted during wartime disruptions (manually delivered messages, relocation of communication, etc.)? Should we preposition spare radios? What are the overt and covert formats to Log C³I? What can be done to improve automatic diagnostic capability for communications (is it a communication problem, a computer program, or an operator problem)? What redundancy plans do we have for logistics communications?

CLASSROOM MATERIAL SOURCES:

TOPIC 27: Command, Control, Communications, and Logistics
(C³L); Command, Control, Communications, and
Intelligence (C³I)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
M obility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
A ttrition M anagement	ee	ff	gg	hh	ii
Survivability and Flexibility A ctions	jj	kk	ll	mm	nn

TOPIC 28: Industrial Preparedness/Industrial Readiness
(47:344)

TOPIC SYNOPSIS:

Plans, actions or measures for the transformation of the industrial base, both government-owned and civilian-owned, from its peacetime activity to the emergency program necessary to support the national military objectives. It includes industrial preparedness measures such as modernization, expansion, and preservation of the production facilities and contributory items and services for the planning with industry.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TOPIC 28: Industrial Preparedness/Industrial Readiness

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	i
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	v
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 29: Wartime Engine Requirement, Policy and Procedure (53)

TOPIC SYNOPSIS:

Being another modeling topic, this area covers techniques mentioned before such as TJEMS, CAC, and DYNAMETRICS.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

It might be a good idea to rely on users and experts of these models to demonstrate their applicability. Some of these models are in the experimental stage, still needing data to complete their development.

TOPIC 29: Wartime Engine Requirement, Policy and Procedure

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 30: Civil Reserve Air Fleet (CRAF) (65)

TOPIC SYNOPSIS:

Aircraft owned and operated by private industry which are convertible to government use on a contract basis in time of emergency to insure immediate and continuous logistical support in wartime. Certain system management equipment and supplies are restocked and prepositioned by civil air carriers.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

National Security Affairs Monograph 79-3 Strategic Mobility in Changing Times and AU-AFIT-LS-8-81 Technical Report The Defense Transportation System: Giving Direction to Change.

TOPIC 30: Civil Reserve Air Fleet (CRAF)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 31: Southwest Asia Prepositioning (43)













TOPIC SYNOPSIS:

This concept is similar to the Near Term Prepositioning Force (NTPF) concept, except the prepositioned equipment is land-based in the Persian Gulf area. The intent is for the Rapid Deployment Force to marry up with this equipment if the need arises. Location of these assets is classified.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TOPIC 31: Southwest Asia Prepositioning

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	 a	 b	 c	d	e
Initial Unit Condition Rating	 f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	 p	 q	 r	s	t
Reception Preparations	u	v	 w	 x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	 ee	 ff	gg	hh	ii
Survivability and Flexibility Actions	 jj	kk	ll	mm	nn

TOPIC 32: Near-Term Prepositioning Force (NTPF) (17:67,68;
70)

TOPIC SYNOPSIS:

A program designed to place a Marine Corps Force package (with limited Army and Air Force munitions) in the Indian Ocean region as quickly as possible. Based at Diego Garcia, the force consists of 13 ships: three Roll-On/Roll-Offs, three breakbulks, five tankers, and two LASH barges. Their cargo includes water, petroleum products, equipment, subsistence stocks, ammunition, and other supplies. These items will provide up to 30 days support for one Marine amphibious brigade and early deploying Army and Air Force units.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TOPIC 32: Near-Term Prepositioning Force (NTPF)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 33: Strategic Mobility (47:662)

TOPIC SYNOPSIS:






















The capability to deploy and sustain military forces worldwide in support of national strategy. This may be accomplished through airlift or sealift.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

National Security Affairs Monograph 79-3, Strategic Mobility in Changing Times.

TOPIC 33: Strategic Mobility

<i>COMBAT LOGISTICS CRITERIA MATRIX</i>					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	 a	 b	 c	 d	 e
Initial Unit Condition Rating	 f	 g	 h	 i	 j
Sortie Requirements Planning	 k	 l	 m	 n	 o
M obility	 p	 q	 r	 s	 t
Reception Preparations	 u	 v	 w	 x	 y
Command, Control, Communication, & Intelligence	 z	 aa	 bb	 cc	 dd
Attrition Management	 ee	 ff	 gg	 hh	 ii
Survivability and Flexibility Actions	 jj	 kk	 ll	 mm	 nn

TOPIC 34: Intra-theater Airlift (47:365)





















TOPIC SYNOPSIS:

Airlift within an area outside the CONUS which is under a unified or specified command.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TOPIC 34: Intra-theater Airlift

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	 a	 b	 c	 d	 e
Initial Unit Condition Rating	 f	 g	 h	 i	 j
Sortie Requirements Planning	 k	 l	 m	 n	 o
Mobility	 p	 q	 r	 s	 t
Reception Preparations	 u	 v	 w	 x	 y
Command, Control, Communication, & Intelligence	 z	 aa	 bb	 cc	 dd
Attrition Management	 ee	 ff	 gg	 hh	 ii
Survivability and Flexibility Actions	 jj	 kk	 ll	 mm	 nn

TOPIC 35: Integrated Communication Lines (43)

TOPIC SYNOPSIS:

This area involves the strategy of international cooperation with allies for transportation and supply support. This involves funding in order to purchase aircraft time, supplies, and parts for other countries.

Two funding allocations are:

1. U.S.-Canadian ILOC. Since FY80, logistical funding for parts and services has been authorized by the Congress with the Canadian government.

2. Cooperative Airlift. An FY84 logistical funding authorization in which airlift resources are purchased by the United States from allied countries. Current agreements with the United Kingdom, Canada, Australia, and New Zealand minimizes dead-head aircraft missions and helps promote understanding in time of war.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TOPIC 35: Integrated Communication Lines

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 36: Logistic Force Structuring (44)

TOPIC SYNOPSIS:

Logistics Force Structuring is a subset within the JSCP. See topic 74.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TOPIC 36: Logistic Force Structuring

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	● a	● b	● c	● d	
Initial Unit Condition Rating	● f	● g	● h	● i	
Sortie Requirements Planning					
	k	l	m	n	o
Mobility					
	p	q	r	s	t
Reception Preparations					
	u	v	w	x	y
Command, Control, Communication, & Intelligence					
	z	aa	bb	cc	dd
Attrition Management					
	ee	ff	gg	hh	ii
Survivability and Flexibility Actions					
	jj	kk	ll	mm	nn

TOPIC 37: Joint Operation Planning System (JOPS) (51)

TOPIC SYNOPSIS:

A management tool in which supported and supporting commands use to develop and maintain their operation plans. These plans cover anticipated military operations from its initiation to its termination. The JOPS consists of four volumes:

Volume I, Implements the planning process. It describes planning formats for operation plans.

Volume II, Plans and Formats. This volume gives functional direction in the plan formulation.

Volume III, Worldwide Military Command and Control System (WWMCCS). This system consists of facilities, equipment, communication procedures, and personnel that provide the technical and operational support involved in the function of command and control to U.S. military forces.

Volume IV, Crisis Action System. Plan for evaluation and execution in emergency situations. This plan is executed in six phases:

Phase I--Situation Development

Phase II--Crisis Assessment

Phase III--Course of Action Development

Phase IV--Decision




















Phase V--Execution Planning

Phase VI--Execution

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TOPIC 37: Joint Operation Planning System (JOPS)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units					
	a	b	c	d	e
Initial Unit Condition Rating					
	f	g	h	i	j
Sortie Requirements Planning					
	k	l	m	n	o
Mobility					
	p	q	r	s	t
Reception Preparations					
	u	v	w	x	y
Command, Control, Communication, & Intelligence					
	z	aa	bb	cc	dd
Attrition Management					
	ee	ff	gg	hh	ii
Survivability and Flexibility Actions					
	jj	kk	ll	mm	nn

TOPIC 38: War and Mobilization Plan (WMP) (51)

TOPIC SYNOPSIS:

An Air Force mobilization document published by the Air Staff which provides all planning activities and the Air Force tactical commander with current policies and planning factors for the conduct and support of wartime operations. It encompasses all functions necessary to match facilities, manpower, and material with planned wartime activity. The five WMP volumes are:

Volume 1, Basic Plans and Supporting Annexes, (WMP-1).

Volume 2, Plans Listing and Summary (WMP-2).

Volume 3, Combat and Support Forces (WMP-3).





















Volume 4, Wartime Aircraft Activity (WAA) (WMP-4).

Volume 5, Basic Planning Data (WMP-5).

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TOPIC 38: War and Mobilization Plan (WMP)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	 a	 b	 c	 d	 e
Initial Unit Condition Rating	 f	 g	 h	 i	 j
Sortie Requirements Planning	 k	 l	 m	 n	 o
Mobility	 p	 q	 r	 s	 t
Reception Preparations	 u	 v	 w	 x	 y
Command, Control, Communication, & Intelligence	 z	 aa	 bb	 cc	 dd
Attrition Management	 ee	 ff	 gg	 hh	 ii
Survivability and Flexibility Actions	 jj	 kk	 ll	 mm	 nn

TOPIC 39: Initial Preplanned Supply Support (51)

TOPIC SYNOPSIS:

Initial Preplanned Supply Support is a subset within JOPS. See topic 37.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TOPIC 39: Initial Preplanned Supply Support

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	● a	● b	 c	● d	 e
Initial Unit Condition Rating	 f	 g	 h	 i	 j
Sortie Requirements Planning	 k	● l	 m	● n	 o
Mobility	 p	 q	● r	● s	 t
Reception Preparations	● u	● v	● w	● x	 y
Command, Control, Communication, & Intelligence	● z	● aa	● bb	● cc	 dd
Attrition Management	 ee	 ff	 gg	 hh	 ii
Survivability and Flexibility Actions	● jj	● kk	● ll	● mm	 nn

TOPIC 40: Prepositioning Concepts (47:533; 68:1)

TOPIC SYNOPSIS:

Concept involving prepositioned War Reserve Materials (WRM) stored at bases and planned operating bases (POBs) to augment peacetime operating stocks (POS), to enhance combat closure times, and to decrease the requirement for transportation resources during early stages of conflict.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TOPIC 40: Prepositioning Concepts

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 41: Mobilization Planning (47:455)

















TOPIC SYNOPSIS:

A systematic method for assembling and placing in a state of readiness for war the manpower and material resources of a nation.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TOPIC 41: Mobilization Planning

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	 a	 b	 c	 d	 e
Initial Unit Condition Rating	 f	 g	 h	 i	 j
Sortie Requirements Planning	 k	 l	 m	 n	 o
Mobility	 p	 q	 r	 s	 t
Reception Preparations	 u	 v	 w	 x	 y
Command, Control, Communication, & Intelligence	 z	 aa	 bb	 cc	 dd
Attrition Management	 ee	 ff	 gg	 hh	 ii
Survivability and Flexibility Activities	 jj	 kk	 ll	 mm	 nn

TOPIC 42: Logistics Over the Shore (LOTS) (59)

TOPIC SYNOPSIS:

LOTS operations are conducted over unimproved shorelines, through fixed ports partially destroyed by combat action, through shallow draft ports not accessible to deep-draft shipping, and through fixed ports that are inadequate without utilizing LOTS capabilities. LOTS operations consist of loading and unloading breakbulk, roll-on / roll-off, container, and bulk POL and water cargo from ships in the theater of operations. LOTS operations include shoreside operations, stevestoring, and water and POL baseline operations. They also include the operation of ships, watercraft, and lightage in the loading and unloading area.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

AFR 75-4, Logistics Over the Shore Operations in Overseas Areas.

TOPIC 42: Logistics Over the Shore (LOTS)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 43: Sortie Surge (4)

TOPIC SYNOPSIS:

Sortie Surge involves all activities required to generate more aircraft missions using the current number of aircraft in the organization. The increased flying activity necessitates more POL, spare parts, manpower, and working hours. From a long-range war planning standpoint, budget considerations on this capability are critical. There is a tradeoff point where it is less expensive to buy new airplanes than keep repairing the old ones.

COMMENTS:

An obvious difference between peace and wartime sortie surges would be the amount of bombs dropped, ammunition expended, or amount of weapons/ammo destroyed by enemy attack. Location, protection, and resupply of these elements are critical combat logistics resources.

CLASSROOM MATERIAL SOURCES:

- AF/XOOT has documents on sortie surges.
- AF/XOOIM has readiness assessment issues.
- Classified information consideration here.
- One must not only avoid functional specialization within logistics, but logisticians should interface frequently with operators to gain better perspectives of total mission requirements. This topic presents an opportunity to understand some basic concepts such as flying hours per day, crew rest, etc. Also, from the manpower perspective, additional contacts include Major Lou Medal and Lt Col Barry Head at AUTOVON 224-0773. They deal with logistics concept models for support air operations.

TOPIC 43: Sortie Surge

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 44: Survival, Recovery and Reconstitution (20)

TOPIC SYNOPSIS:

Logistics facilities which have been attacked must be put back into operation to support the mission. This issue correlates somewhat with Topic 76 on reduction of maintenance personnel casualties. Both topics focus on protection of logistics manpower, equipment and facilities. Relocation may be a necessary alternative in war-time.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

Lt Col Johnson mentioned several sources that might be good for combat logistics instruction materials.

--Sinews of War by Huston.











--Articles by Col Fred Gluck (USAF Ret.).

--Exploration of the Concept of Logistics: A Constitutive Approach.

--A book by Merton G. Henry on military mobilization in World War II.

--Two articles written by Lt Col Johnson himself about future logistics on file at the Air Force Logistics Management Center.

TOPIC 44: Survival, Recovery and Reconstitution

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z 	aa 	bb 	cc 	dd 
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj 	kk 	ll 	mm 	nn 

TOPIC 45: Standard Air Munitions Package (STAMP) (68:5)

TOPIC SYNOPSIS:

A flexible mix of air transportable munitions packages consisting of prescribed quantities of conventional munitions to support certain tactical fighter/reconnaissance weapons systems.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

WRM Compendium, Executive Summary.

TOPIC 45: Standard Air Munitions Package (STAMP)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a ●	b	c	d	e
Initial Unit Condition Rating	f ●	g	h	i	j
Sortie Requirements Planning	k ●	l	m	n	o
Mobility	p ●	q	r ●	s	t
Reception Preparations	u ●	v	w	x	y
Command, Control, Communication, & Intelligence	z ●	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj ●	kk	ll	mm	nn

TOPIC 46: Standard Tanks, Racks, Adapter, and Pylon
Package (STRAPP) (68:5)

TOPIC SYNOPSIS:

An air deployable package of external fuel tanks and expendable hardware drawn from Pacer Flex, and are designed to provide replacement quantities for certain tactical fighter/reconnaissance weapon systems for a specific period.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

WRM Compendium, Executive Summary.

TOPIC 46: Standard Tanks, Racks, Adapter, and Pylon
Package (STRAPP)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a ●	b	c	d	e
Initial Unit Condition Rating	f ●	g	h	i	j
Sortie Requirements Planning	k ●	l	m	n	o
Mobility	p ●	q	r ●	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z ●	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj ●	kk	ll	mm	nn

TOPIC 47: Pacer Flex (68:1)

TOPIC SYNOPSIS:

Prestocked War Reserve Materials (WRM) stored in the AFLC wholesale logistics system to support the planned nonnuclear activities reflected in the USAF War Mobilization Plan (WMP). It consists of:

1. Basic PACER FLEX--those quantities of WRM required to be prestocked for follow-on support of the war-time activities reflected in the WMP-6.

2. Command Overflow--those quantities of war consumables generated to support sorties identified in the USAF WMP-4 for prepositioning by major commands, but for which the command storage or maintenance capability is not available.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

WRM Compendium, Executive Summary.

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WITH UNITED STATES A. (U) AIR FORCE INST OF TECH
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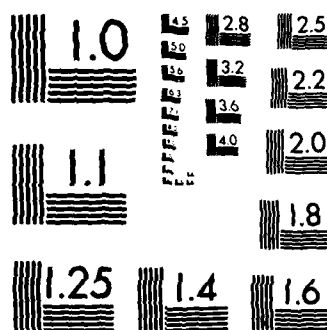
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MICROCOPY RESOLUTION TEST CHART
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TOPIC 47: Pacer Flex

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 48: Harvest Bare/Harvest Eagle (68:3,4)

TOPIC SYNOPSIS:

Harvest Bare--All-transportable WRM equipment packages designed to support personnel, aircraft, and other base maintenance and support functions. The package includes mobile hard and softwall facilities, utilities, and 30 days worth of associated spare parts and housekeeping supplies.

Harvest Eagle--Palletized air transportable packages of softwall facilities and 30 days spare parts and supplies. Each set is designed to billet, feed, and support up to 1100 persons at bases without adequate housekeeping capability.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

WRM Compendium, Executive Summary.

TOPIC 48: Harvest Bare/Harvest Eagle

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 49: War Readiness Spares Kit (WRSK)/Base Level
Self-sufficiency Spares (BLSS) (68:2)

TOPIC SYNOPSIS:

WRSK--Air transportable packages of spares and repair parts which can support aircraft; vehicles; command, control, and communication (C³) systems; and other equipment, pending resupply. Their composition depends on aircraft Mission/Design/Series (MDS), expected tasking, location of tasking, deployed maintenance capability, and time-phasing of follow-on maintenance and resupply support.









BLSS--Non-mobile spare package intended to support increased wartime activity for units or activities which do not deploy from their peacetime bases, but have a wartime tasking. Composition depends on tasking, in-place maintenance capability, and programmed supply support. Quantities are based on prepositioning objectives and the time needed for effective resupply.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

WRM Compendium, Executive Summary.

TOPIC 49: War Readiness Spares Kit (WRSK)/Base Level
Self-sufficiency Spares (BLSS)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	 a	b	c	 d	e
Initial Unit Condition Rating	 f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	 p	q	 r	 s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	 z	aa	bb	cc	dd
Attrition Management	 ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 50: Capability Reporting (20)

TOPIC SYNOPSIS:

This topic is a general term relating to various means of communicating unit operational status, including in-commission rates, C-ratings, etc. An integrated approach to determining capability definitively requires logistics considerations.













COMMENTS:

A combat logistics course might include this topic as a separate section where several ways of reporting capability are discussed. Differences between logistics disciplines, reports, the role of data systems, and the importance of logistics C³ compose a few subtopics possibilities.

CLASSROOM MATERIAL SOURCES:

Examples of reports on capability from maintenance, supply, transportation, and logistics plans.

TOPIC 50: Capability Reporting

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	 a	 b	 c	 d	 e
Initial Unit Condition Rating	 f	 g	 h	 i	 j
Sortie Requirements Planning	 k	 l	 m	 n	 o
Mobility	 p	 q	 r	 s	 t
Reception Preparations	 u	 v	 w	 x	 y
Command, Control, Communication, & Intelligence	 z	 aa	 bb	 cc	 dd
Attrition Management	 ee	 ff	 gg	 hh	 ii
Survivability and Flexibility Actions	 jj	 kk	 ll	 mm	 nn

TOPIC 51: Material Attrition (47:74)

TOPIC SYNOPSIS:

The reduction of the effectiveness of a force caused by the loss, destruction, or wear-out of non-expendable articles beyond the point of economical repair and rehabilitation.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TOPIC 51: Material Attrition

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 52: Air Base Survivability (7:8)

TOPIC SYNOPSIS:

Only a total systems approach can effectively deal with problems here, which include vulnerable aircraft, rapid runway repair, increasing accuracy of enemy weapons, air defense systems, and protective revetments around support facilities.

COMMENTS:

Other related topics are reduction of maintenance casualties, collocated operating bases, logistics operations in a chemical, biological, or nuclear (CBN) environment, and survival recovery, and reconstitution. In fact, air base survivability could be addressed as a major topic area with many sub-issues.

CLASSROOM MATERIAL SOURCES:

Alternatives to standard air base functions should definitely be brought out also, especially the Air Force 2000 discussions about smaller, decentralized, and more autonomous air base operations in the future.

TOPIC 52: Air Base Survivability

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 53: Logistics Operations in a Chemical, Biological,
or Nuclear (CBN) Environment (20)

TOPIC SYNOPSIS:

Logistics are particularly affected in a chemical, biological, or nuclear attack. The Army's current buzzword is the "Integrated Battlefield," indicating all aspects of the warfighting effort requires consideration.

COMMENTS:

Wartime procedures are classified.

CLASSROOM MATERIAL SOURCES:

TOPIC 53: Logistics Operations in a Chemical, Biological,
or Nuclear (CBN) Environment

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 54: Casualty Reporting (20)

TOPIC SYNOPSIS:

This topic is tied closely with survivability and manpower issues. The first question here is: What skills or rated skills are left to perform logistics tasks? Actual casualty reporting procedures are important and should be discussed, but even more critical to warfighting is the issue of how best to utilize the remaining manpower.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

Current operations within the Air Force Directorate of Personnel Plans might be able to assist in suggesting instruction material, AUTOVON 225-4212.

TOPIC 54: Casualty Reporting

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 55: Logistics Activities in Degraded Communications (8)

TOPIC SYNOPSIS:

The point in this topic does not deal so much with resupply or maintenance procedures, but with getting communications reestablished to resume logistics functions. Usually, the operators have priority on getting communications reestablished. Logisticians do not have an organic communications capability and depend on someone else to meet that need. In war, logisticians might plan on making do with manually delivered messages or limited communications until higher priorities are filled.

COMMENTS:

Different levels of destruction would obviously pose different problems as well. Planning must be done to reestablish logistics communications whether the scenario involves global war or a Zaire peacekeeping effort.

CLASSROOM MATERIAL SOURCES:

A current Program Management Directive (PMD) exists on logistics communication support. Also, Logistics Information Management Support Systems (LIMSS) is an important, directly related issue. Additional contact is Mr. Pesetski, AV 227-8621.

TOPIC 55: Logistics Activities in Degraded Communications

<i>COMBAT LOGISTICS CRITERIA MATRIX</i>					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 56: Wartime Retrograde (20)

TOPIC SYNOPSIS:

A major transportation issue in which high dollar equipment items needing repair in the CONUS are transported by air from the front lines. This necessitates accurate scheduling in that the items needing repair must be delivered to the field location in time to meet scheduled flights. The approach also would interface with the European Distribution System.

COMMENTS:

This could be a risky undertaking in that not all bases would be available for evacuating equipment. This exposes the remaining air bases to possible attack.

CLASSROOM MATERIAL SOURCES:

TOPIC 56: Wartime Retrograde

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 57: Wartime Host Nation Support (56)

TOPIC SYNOPSIS:

This topic is one of several forward base options which alleviate airlift shortfalls. Mobility capabilities will be enhanced through expanded use of host nation support agreements. In the case of highly immobile air-field facilities and POL, the availability of host nation support will be tested in bilateral exercises that will provide realistic training for support forces. Increasing host nation capabilities for off-equipment repair and manufacturing will provide opportunities to reduce organic theater support and mobility requirements.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TOPIC 57: Wartime Host Nation Support

<i>COMBAT LOGISTICS CRITERIA MATRIX</i>					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 59: NATO Wartime Logistics (30; 33)

TOPIC SYNOPSIS:

A broad area concerned with the support of U.S. Air Forces assigned and committed to NATO. Examples of sub-issues might include reallocation procedures, logistics support provided and received by other nations, coalition logistics, and Host Nation Support agreements on collocated operating bases (COBs). Also highly important here would be the lines of communication and command infrastructure peculiarities of NATO logistics. Classroom instruction should emphasize especially that U.S. Air Force logistics supports the NATO chain of command in wartime.

COMMENTS:

Wartime coordination between NATO organizations will increase significantly.





















CLASSROOM MATERIAL SOURCES:

AFR 400-9, Mutual Logistics Support for NATO.

AFR 400-32, US/German Logistics.

This topic lends itself ideally to teaching combat logistics for a specific scenario.

TOPIC 59: NATO Wartime Logistics

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	 a	 b	 c	 d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	 k	 l	 m	 n	o
Mobility	 p	 q	 r	 s	t
Reception Preparations	 u	 v	 w	 x	y
Command, Control, Communication, & Intelligence	 z	 aa	 bb	 cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 60: Combat Logistics System (CLS) (18)

TOPIC SYNOPSIS:

CLS refers to a totally mobile, deployable mini-computer system for resource plans/logistics plans and program functions. In development at Air Staff for the past eighteen months, this system will contain all information to deploy any Air Force unit. The system would also contain information on GPLDs, WRM, silver recovery, and host-tenant support agreements. The CLS system would be geared to accommodate both peace and wartime information.

COMMENTS:

Funded for FY85, this system will hold much of the information needed in the above areas for any resource plans or logistics plans and program office. Upon deployment notification, a deploying unit would dump its hard disk COMPES data into the resource plans CLS, which, in turn, would interface with the TCU and MPU. Thus, processing of mobility cargo and personnel would be expedited.

CLASSROOM MATERIAL SOURCES:

In three to four months, AFLMC will be putting out a functional description of CLS.

TOPIC 60: Combat Logistics System (CLS)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 61: Collocated Operating Bases (COBs) (46:71)

TOPIC SYNOPSIS:

















Main operating bases of allied air forces that will be shared by USAF units during wartime. There are four main advantages to COBs:

1. Using already operational bases as augmentation sites is cheaper than building new main bases.
2. The deploying CONUS units would be well dispersed--particularly strengthening the flanks--rather than bunched up at USAFE's main operating bases. They would add about 2,000 aircraft to NATO airpower.
3. The use of COBs would mean an even closer association with the allies.
4. Reinforcement at the COBs would significantly strengthen the conventional defense of Central Europe.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TOPIC 61: Collocated Operating Bases (COBs)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	 a	 b	 c	 d	 e
Initial Unit Condition Rating	 f	 g	 h	 i	 i
Sortie Requirements Planning	 k	 l	 m	 n	 o
Mobility	 p	 q	 r	 s	 t
Reception Preparations	 u	 v	 w	 x	 v
Command, Control, Communication, & Intelligence	 z	 aa	 bb	 cc	 dd
Attrition Management	 ee	 ff	 gg	 hh	 ii
Survivability and Flexibility Actions	 jj	 kk	 ll	 mm	 nn

TOPIC 62: Combat Quick Turn (3)

TOPIC SYNOPSIS:

This is a concept in which a returning sortie aircraft is refueled and reloaded with ammunition so that it may return to carry out additional sortie missions. This may involve servicing aircraft with engines on or off. TAC practices this concept daily, especially in the European theater.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TO 00-25-172 dictates Combat Quick Turn procedures.

TOPIC 62: Combat Quick Turn

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 63: Decentralized Base Level Maintenance Concepts (60)

TOPIC SYNOPSIS:

This is a maintenance concept within TAC called COMO (Combat Oriented Maintenance Organization) in which maintenance is functionally organized and decision making is decentralized to the lowest practical level. The intent of this concept is to organize in peacetime the functions that will be conducted in wartime. The maintenance complex is separated into "on-equipment" and "off-equipment" squadrons to permit concentration of effort on either sortie production or heavy maintenance.

On-equipment maintenance is done by an Aircraft Generation (AGS) where tasks normally are made up of aircraft launch and recovery, flightline inspections, servicing, lubricating, weapons loading, and adjusting and replacing of parts, assemblies, and subassemblies.

Off-equipment maintenance is done in two squadrons. The Component Repair Squadron (CRS) does the following representative tasks: in-shop calibrating, repairing or replacing damaged or unserviceable parts, components, or assemblies; modifying material; and emergency manufacture of unavailable parts. The Equipment Maintenance Squadron (EMS) performs heavy aircraft maintenance (phase or periodic) inspections and extensive aircraft repairs, AGE maintenance, and munitions maintenance.

COMMENTS:

Statistics by TAC show that this concept has increased sortie rates by 70 percent since 1975.

CLASSROOM MATERIAL SOURCES:

AFR 66-1.

TOPIC 63: Decentralized Base Level Maintenance Concepts

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 64: Centralized Intermediate Logistics Concept
(CILC) (41:14-18)

TOPIC SYNOPSIS:

The consolidation of most theater intermediate level maintenance in one (or more) locations--typically rearward--within a theater. Its design is to reduce important differences between peacetime and wartime operations and procedures, thereby making the transition from peace to war easier. This also increases the flexibility of combat forces, more intra-theater mobility, and enhanced regroup capability.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

Rand Report N-1797-AF, An Integrated View on Improving Combat Readiness.

TOPIC 64: Centralized Intermediate Logistics Concept (CILC)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 65: Dispersal Techniques and Hardening (3)

TOPIC SYNOPSIS:

Dispersal techniques are simply placing assets in more than one location to ensure survivability and protection within a theater. Hardening entails the construction of facilities that are able to survive attacks.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TOPIC 65: Dispersal Techniques and Hardening

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	i
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 66: In-Shelter Refueling of Aircraft (3)

TOPIC SYNOPSIS:

This is a program involving hardened shelters to be used in protecting aircraft from attack while refueling. This may involve refueling directly from trucks or underground hydra-systems. This is a USAF initiative in trouble with NATO allies because of construction costs.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TOPIC 66: In-Shelter Refueling of Aircraft

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 67: Combat Supply Procedures (58)

TOPIC SYNOPSIS:

Combat Supply Procedures prescribes a standard supply system by establishing standardized procedures for all supply activities operating in a deployed environment supported by the USAF Standard Base Supply System (SBSS). These procedures are designed to support combat operations at forward sites where no supply account exists, but where a formal supply account has been designated to provide accountability and support.

COMMENTS:

This system as prescribed in AFM 67-1, Volume II, Part 3, is outdated and needs to be updated.

CLASSROOM MATERIAL SOURCES:

AFM 67-1, Volume II, Part 3.

TOPIC 67: Combat Supply Procedures

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 68: War Reserve Material (WRM) Concept (66)

TOPIC SYNOPSIS:

WRM is that portion of material, above and beyond peacetime operating stocks, required to support the increased activity of forces during wartime. WRM is necessary to assure the timely response and sustainability of weapons systems to support forces, activities, and mission objectives for wartime scenarios consistent with the Defense Guidance (DG). WRM must provide the additional margin of support required to meet wartime demands with production, transportation, and stockage capability.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

AFM 67-1, Volume I, Part One, Chapter 14.

TOPIC 68: War Reserve Material (WRM) Concept

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 69: Mobility Equipment Concepts (68:21)

TOPIC SYNOPSIS:

An item or quantity of equipment taken with a unit when deploying to an emergency or wartime station. Requirements are determined by the Command Equipment Management Office (CEMO) and the tasked unit, based on applicable allowance documents. Mobility equipment is authorized only after consideration of prepositioned WRM and Joint Use (JU) equipment. It is available for combat and combat support units deployed during emergency, contingency, or wartime situations.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TOPIC 69: Mobility Equipment Concepts

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	i
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 70: Special Logistics Support (66)

TOPIC SYNOPSIS:

Special supply procedures that are used in emergency, deployment, and combat situations. Special interest areas include but are not limited to:

1. Combat Support System (CSS)--a mobile air transportable computer capable of performing essential supply functions in a mobile environment. The system will allow use of peacetime procedures in a wartime environment. CSS is tailored to support specific deployment situations where full in-garrison supply support is not necessary.

2. Mobile Supply Computer Support (Penny Counter)--Mobile supply computers are available to provide emergency backup for existing supply installations worldwide. These systems are designed to replace existing base supply systems when such systems are made inoperable due to natural causes, war, or mechanical failure. The mobile system can also supply support for Bare Base Operations or provide for rapid expansion of an existing base supply facility when such buildup is required by the relocation of large aerospace systems or units.

3. Post-Post Procedures--Standard procedures used when the Standard Base Supply System (SBSS) computer is not operational for a period of time.

4. Combat Follow-On Supply System (CFOSS)--Provides the capability for bases to identify, compute, assemble, and ship spare parts from available operating stacks to support wartime deployed forces.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TOPIC 70: Special Logistics Support

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 72: Ammunition Control Point (67)

TOPIC SYNOPSIS

An Air Force activity located within an overseas theater which controls the distribution, requisition, and expenditure of ammunition.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TOPIC 72: Ammunition Control Point

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 73: Time-Phased Force Deployment Data (TPFDD) /
Time-Phased Force Deployment List (TPFDL) (48)

TOPIC SYNOPSIS:

TPFDD--The time-phased force and transportation data for an OPLAN, including:

1. Type units to be deployed.
2. Type units to be deployed to support the OPLAN with a priority indicating the desired sequence of their arrival.
3. Routing of forces to be deployed.
4. Mobility data associated with deploying forces.
5. Personnel and logistics movement to be conducted and concurrently with the deployment of forces.
6. Estimate of transportation requirements which much be fulfilled by common-user lift resources as well as those requirements which can be fulfilled by assigned or attached transportation resources (JOPS).

TPFDL--A part of the TPFDD which includes a time-phased force list, identifies type units to be deployed, and provides data concerning their destination.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

Lecture materials from Major Talbott's class, "Logistics Plans and Policy" in the School of Systems and Logistics.

TOPIC 73: Time-Phased Force Deployment Data (TPFDD) /
Time-Phased Force Deployment List (TPFDL)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 74: Joint Strategic Capabilities Plan (JSCP) (44; 50)

TOPIC SYNOPSIS:

The purpose of the JSCP is to provide guidance to the commanders of the unified and specified commands and the Chiefs of the Services for the accomplishment of military tasks, based on projected military capabilities and conditions during the short-range period in the Planning, Programming, and Budget System (PPBS).











The JSCP provides the strategic concept to support the national security objective and the military objectives derived therefrom. Of particular interest in this course is Volume II (Forces), Annex B.

Annex B: Logistics--This annex provides logistic planning guidance and contains, as an appendix, statements by the services as to their capability to support the forces identified in Volume II. The Defense Supply Agency may provide a similar statement of its capability to support the services during the JSCP period.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TOPIC 74: Joint Strategic Capabilities Plan (JSCP)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	 a	 b	 c	 d	e
Initial Unit Condition Rating	 f	 g	 h	 i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	 ee	ff	gg	 hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 75: Maintenance in Chemical, Biological, or Nuclear
(CBN) Environments (36)

TOPIC SYNOPSIS:

This area is a subset of the more general topics of logistics operations in a CBN environment. Again, procedures are classified.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TOPIC 75: Maintenance in Chemical, Biological, or Nuclear
(CBN) Environments

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 76: Reduction of Maintenance Personnel Casualties
(Survivability) (36)

TOPIC SYNOPSIS:

There has been concern that hardened facilities are designed to protect aircraft and equipment, but less is being done to protect front-line logistics personnel. If weapons systems survive, but operators and repair personnel do not, there is no warfighting capability. Should we be hardening the radar shop, living quarters, supply facilities, etc.? An obvious limitation here, and possibly an insurmountable one, is the cost of such initiatives.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TOPIC 76: Reduction of Maintenance Personnel Casualties
(Survivability)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 77: Joint Deployment System (22)

TOPIC SYNOPSIS:

A system for coordinating deployment planning and execution among the Joint Deployment community. It enables separate participants to work in concert so their individual efforts form an integrated product. It also permits transition from peacetime to crisis action and execution. It bridges the gap between deliberate peacetime planning and time-sensitive planning and execution for an imminent or evolving crisis.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

There is an excellent article in Translog, September 1982 on this subject.

TOPIC 77: Joint Deployment System

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 78: Unit Type Code (UTC) (51)





TOPIC SYNOPSIS:

A five-character alphanumeric designator that describes a specific capability. Part 3 of the USAF War and Mobilization Plan (WMP) lists the UTCs for all Air Force capabilities. These are used by unified and specific command, HQ USAF, and JCS to identify forces required to support contingency plans.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TOPIC 78: Unit Type Code (UTC)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	 a	 b	 c	 d	 e
Initial Unit Condition Rating	 f	 g	 h	 i	 j
Sortie Requirements Planning	 k	 l	 m	 n	 o
Mobility	 p	 q	 r	 s	 t
Reception Preparations	 u	 v	 w	 x	 y
Command, Control, Communication, & Intelligence	 z	 aa	 bb	 cc	 dd
Attrition Management	 ee	 ff	 gg	 hh	 ii
Survivability and Flexibility Actions	 jj	 kk	 ll	 mm	 nn

TOPIC 79: Manpower Sourcing (5)

TOPIC SYNOPSIS:

This term simply refers to the process of matching skills with jobs/AFSCs. Wartime situations pose some peculiar challenges in this area.

COMMENTS:

A typical impact in a combat scenario might involve the requirement for certain specialists to handle extra problems posed by the need for a remove, repair, and replace (RRR) maintenance capability. A peacetime scenario might simply require a remove and replace (RR) capability. Spares shortages may not allow the normal RR practice to be used in a combat situation. Here the question arises: Where can the skills for this job be found? Frequently, the organization must depend on in-place similar skills to handle the challenge. Lt Col Ball mentioned a situation in Vietnam where maintenance personnel had to repair a rocket damaged nose cone on an AC-119. It would have taken a couple of years to rebuild the nose, so one was cut from a Davis-Monthan C-119 and flown in for attachment. In this case, the maintenance organization performed a rather unique task. Typically, all Air Force personnel could expect to have to cope with a greater variety and quantity of jobs in wartime.

CLASSROOM MATERIAL SOURCES:

AFR 39-1, AFR 35-1, and other classification personnel structure documents/manuals. Also, the MPC computer product referred to as the "ATLAS," which breaks down skills by various formats--MAJCOM, CONUS, overseas, etc. It can be run for any AFSC and functions like a BLSS product. A copy of this item may be useful for demonstration in class.

TOPIC 79: Manpower Sourcing

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 80: WARFIL and WARSKIL (5)

TOPIC SYNOPSIS:









Essentially, this program seeks to identify positions requiring augmentation in wartime. Most of the tasks are labor-intensive and are in civil engineering and security police AFSCs. Planners attempt to acquire these resources from non-critical, non-combat areas such as administration, personnel, etc.

COMMENTS:

Problems with the program from a wartime standpoint might involve poor allocation of personnel resources. For instance, a maintenance PMEL person may not be a critical combat function, but he/she might be better reassigned to a related radar function as opposed to a CE/SP position.

CLASSROOM MATERIAL SOURCES:

TOPIC 80: WARFIL and WARSKIL

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z 	aa 	bb 	cc 	dd
Attrition Management	ee 	ff 	gg 	hh 	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 81: Individual Mobilization Augmentees (IMA) (5)

TOPIC SYNOPSIS:

These Air Force reservists are not assigned to a reserve unit, but accomplish their monthly training with an active duty unit, and would usually be assigned to that organization upon mobilization.

COMMENTS:

From a combat mentality perspective, these people must be apprised of current unit developments during their monthly training. Commanders should know the IMA's skills and plan for the person's role. Some IMAs can provide a wealth of information on wartime lessons if they have combat experience. Often, these individuals have civilian positions in industry highly related to the tasks they would perform during mobilization.

CLASSROOM MATERIAL SOURCES:

AFRES Headquarters documents on IMAs.

TOPIC 81: Individual Mobilization Augmentees (IMA)

COMBAT LOGISTICS CRITERIA MATRIX					
COMBAT READINESS ACTIVITY	LOGISTICS FUNCTION				
	Supply	Maintenance	Transportation	Logistics Plans	Acquisition
Identification of Units	a	b	c	d	e
Initial Unit Condition Rating	f	g	h	i	j
Sortie Requirements Planning	k	l	m	n	o
Mobility	p	q	r	s	t
Reception Preparations	u	v	w	x	y
Command, Control, Communication, & Intelligence	z	aa	bb	cc	dd
Attrition Management	ee	ff	gg	hh	ii
Survivability and Flexibility Actions	jj	kk	ll	mm	nn

TOPIC 9: Command and Control in AFLC (28)

TOPIC SYNOPSIS:

See topic 10.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

TOPIC 23: European Participation Group (34)

TOPIC SYNOPSIS:

This is a consortium consisting of Belgium, Denmark, The Netherlands, Norway, and the United States. These countries are involved in a coproduction agreement in which up to 3000 F-16s will be produced and deployed to these countries.

COMMENTS:

This program has been referred to as a "grand experiment" through which an attempt has been made to partially fulfill the economic needs of the Western Alliance while satisfying companion military requirements. These objectives were designed to be accomplished within the construct of diverse (though compatible) U.S. and European, political, social, and industrial systems.

CLASSROOM MATERIAL SOURCES:

TOPIC 58: Wartime Foreign Military Sales (FMS) Procedures
(49)

TOPIC SYNOPSIS:

FMS is primarily a peacetime function that is overseen by the International Logistics Center. However, in wartime situations in which an ally of the United States is involved, the National Command Authorities (NCA) assumes control of the FMS program and directs sales and shipments to those countries. Primarily, the State Department makes these decisions through the Department of Defense.

COMMENTS:

Presently, there is no published guidance when the situation changes from peacetime to wartime. A DOD group from the DSAA level is directing a program in which procedures will be decided and published, but it is not known when this will be accomplished. However, a prime concern with FMS is that it takes away assets that could affect readiness, according to some. However, FMS maintains strength of friendly nations and reduces the likelihood of direct U.S. involvement.

TOPIC 71: Joint Operations Supply

TOPIC SYNOPSIS:

Sources at Air Staff AFLC, and Logistics Management Center were not familiar with this term.

COMMENTS:

CLASSROOM MATERIAL SOURCES:

APPENDIX C
COMBAT LOGISTICS COURSE SYLLABUS

LESSON 1

Subject:

Introduction to Combat Logistics

Lesson Objective:

The objective of this lesson is for each student to know the purpose, goals, general content, evaluation procedures, and the administrative/academic policies of the course.

Study Assignment:

None.

Instructional Methodology:

Lecture

LESSON 2

Subject:

Logistics Operations in a Chemical, Biological, or
Nuclear Environment

Lesson Objective:

The objective of this lesson is for each student to realize the possible combat logistics environments he or she may be subjected to if involved in a wartime scenario.

Study Assignment:

None

Instructional Methodology:

Film

Topics from the 10-5-4- Rule:

Logistics Operations in a Chemical, Biological, or
Nuclear Environment (Topic 53).

LESSON 3

Subject:

Combat Logistics Survey

Lesson Objective:

The objective of this lesson is for each student to answer a combat logistics survey to determine his/her attitude toward participating in and supporting a wartime scenario. The survey would also ask questions dealing with organizational effectiveness and support from other units/logistics functions.

Study Assignment:

None

Instructional Methodology:

Survey Package

Topics from the 10-5-4 Rule:

None

Additional Author Selected Material:

Combat Logistics Survey from the Human Resources Laboratory, Wright-Patterson AFB

LESSON 4

Subject:

Soviet Logistics and Threats

Lesson Objective:

The objective of this lesson is to enable each student to be informed on the Soviet logistics system and the threat the Soviets impose on the U.S. logistics system.

Samples of Behavior:

1. Determine the threats the Soviets impose on the U.S. logistics system.
2. Determine the effectiveness of the Soviet logistics system.

Study Assignment:

Holze, Captain William R., USA, and Captain Terry L. Schott, USA. "Soviet Logistics: How Good Is It?" Army Logistician, March-April 1976, pp. 18-21.

Strafer, Captain Kenneth J., USA. "The Soviet Threat to Corps General Support Centers," Army Logistician, July-August 1977, pp. 6-9.

Instructional Methodology:

Lecture/Discussion

Topics from the 10-5-4 Rule:

None

LESSON 4--Continued

Additional Author Selected Material:

Selected Logistics and Threats

Note: If classified material is chosen, the briefing by Captain Anita Arms, HQ USAF specialist on Soviet logistics, would provide excellent information.

LESSON 5

Subject:

Introduction to Transportation

Lesson Objective:

The objective of this lesson is for each student to realize the uniqueness of the Defense Transportation System and history leading up to the present system.

Samples of Behavior:

1. Define the eight principles of transportation that relate to controlling essentials for optimum efficiency.
2. Determine how federal laws and regulations affect the Defense Transportation System.

Study Assignment:

Harrington, Major Thomas C., USAF. "The Defense Transportation System: Giving Direction to Change." Unpublished technical report, AU-AFIT-LS-8-81, Wright-Patterson AFB OH, December 1981, pp. 7-32.

Instructional Methodology:

Lecture/Discussion

Topics from the 10-5-4 Rule:

None

Additional Author Selected Material:

The eight principles of transportation

The Defense Transportation System

LESSON 6

Subject:

Transportation and Strategy Mobility

Lesson Objective:

The objective of this lesson is for each student to realize how U.S. policies and interests are protected through the transportation commands implementing strategic mobility scenarios.

Samples of Behavior:

1. Determine what each transportation command faces when deploying personnel and equipment in various parts of the world.
2. Determine what possible changes and strategies may be used to more effectively place materials and personnel in areas of vital interest to the U.S.
3. Realize what steps are taken in the Transportation Emergency Preparedness System.

Study assignment:

Harrington, Major Thomas C., USAF. "The Defense Transportation System: Giving Direction to Change." Unpublished technical report AU-AFIT-LS-8-81, Wright-Patterson AFB OH, December 1981, pp. 33-85.

U.S. Department of the Air Force. Logistics Over the Shore Operations in Overseas Areas. AFR 75-4. Washington: Government Printing Office, 1 June 1983.

Instructional Methodology:

Lecture/Discussion

LESSON 6--Continued

Topics from the 10-5-4 Rule:

- SWA Prepositioning (Topic 31)
- Near-Term Prepositioning Force (Topic 32)
- Civil Reserve Air Fleet (Topic 30)
- Strategic Mobility (Topic 33)
- Joint Logistics Over the Shore (Topic 42)

Additional Author Selected Material:

- Military Traffic Management Command (MTMC)
- Military Airlift Command (MAC)
- Military Sealift Command (MSC)
- Joint Deployment Agency (JDA)

LESSON 7

Subject:

Transportation Exercises

Lesson Objective:

The objective of this lesson is to place each student in the role of a transportation officer and determine the airlift requirements and convoy requirements in a simulated wartime scenario.

Samples of Behavior:

Given an airlift and highway resupply methodology, determine the number of aircraft and vehicles needed to transport certain amounts of equipment and personnel.

Study Assignment:

Defense Intelligence Agency. Highway Resupply Methodology. Defense Intelligence Agency Document DDB-2010-7-82, Washington DC, October 1982.

Harrington, Major Thomas C., USAF. Professor, Department of Logistics Management, AFIT/LS, Wright-Patterson AFB OH. Personal notes. 31 March 1983.

Instructional Methodology:

Exercise

Topics from the 10-5-4 Rule:

None

Additional Author Selected Material:

None

LESSON 8

Subject:

Mobility Planning

Lesson Objective:

The objective of this lesson is for the student to identify what mobility is, who must mobilize, what composition the basic mobility organization entails, and mobility policy.

Samples of Behavior:

1. Define mobility and identify the types of units that are required to mobilize.
2. Describe the purpose of AFR 28-4, USAF Mobility Planning.
3. Describe the purpose of a base mobility plan.

Study Assignment:

Reynolds, Lieutenant Colonel Roger D., USA. "NATO Host-Nation Logistics Support," Army Logistician, May-June 1977, pp. 14-16.

U.S. Department of the Air Force. USAF Mobility Planning. AFR 28-4. Chapters 1-4. Washington: Government Printing Office, 16 November 1978.

_____. Logistics Plans and Programs Course. Block IV, Chapter 1: "Mobility Planning." Lowry AFB CO, 1 March 1981.

Instructional Methodology:

Lecture/Discussion

LESSON 8--Continued

Topics from the 10-5-4 Rule:

Collocated Operating Bases (Topic 61)
Wartime Host-Nation Support (Topic 57)

Additional Author Selected Material:

Mobility Organization
Mobility Work Centers
Deployable Forces
Mobility Policy

LESSON 9

Subject:

Mobilization and Deployment of Forces

Lesson Objective:

The objective of this lesson is for the student to understand the function of Mobilization and Deployment Systems and how it is used when deploying personnel and equipment.

Samples of Behavior:

1. Determine what Command, Control, Communication, and Intelligence (C³I) systems are used to determine what units should be mobilized.
2. Determine who the managers are in the Deployment Management System.
3. Determine how the Air Force conducts its mobility planning.

Study Assignment:

Sutton, Lieutenant Colonel Thomas L., USAF. "Mobilization and Deployment of the Air Force."

Instructional Methodology:

Lecture/Discussion

Topics from the 10-5-4 Rule:

Worldwide Military Command and Control System (Topic 3)
Command, Control, Communications, and Intelligence
(C3I) (Topic 27)
Joint Operational Planning System (Topic 37)
USAF War and Mobilization Planning (Topic 38)

LESSON 9--Continued

Mobilization Planning (Topic 41)

Unit Type Code (Topic 78)

Time Phased Force Deployment List (Topic 73)

Time Phased Force Deployment Data (Topic 73)

Mobility Equipment Concepts (Topic 69)

Additional Author Selected Material:

Mobility Equipment Concepts (Topic 69)

LESSON 10

Subject:

Automated Systems

Lesson Objective:

The objective of this lesson is for the student to realize and understand the various automated systems and products that enable the logistics planners to effectively organize personnel and equipment mobilization.

Samples of Behavior:

1. Realize the purpose and objectives of the Contingency Operation/Mobility Planning and Execution System (COMPES).
2. Realize some of the MAJCOM deficiencies of the automated systems they use.

Study Assignment:

U.S. Department of the Air Force. Logistics Plans and Programs Course. Block IV, Chapter 4: "Automated Systems," pp. 1-15. Lowry AFB CO, 1 March 1981.

Instructional Methodology:

Lecture/Discussion

Topics from the 10-5-4 Rule:

None

Additional Author Selected Material:

Contingency Operation/Mobility Planning and Execution System (COMPES) (Topic 20)

LESSON 11

Subject:

Overview and Test

Lesson Objective:

The objective of this lesson is for the student to review the assignments and discussions of the past week and display this knowledge through written testing procedures.

Instructional Methodology:

Discussion/Test

LESSON 12

Subject:

Why Supply Spares are Short

Lesson Objective:

The objective of this lesson is to educate the student why there are critical supply shortages and what is presently being done to alleviate this problem.

Samples of Behavior:

1. Determine the constraints that have resulted in supply shortages.
2. Determine the effect on readiness due to supply shortages.
3. Determine the different categories of supply spares in peacetime and wartime.

Study Assignment:

Correll, John T. "Why Spares are Short," Air Force Magazine, September 1983, pp. 56-62.

Instructional Methodology:

Lecture/Discussion

Topics from the 10-5-4 Rule:

None

Additional Author Selected Material:

Supply spares problem

LESSON 13

Subject:

War Reserve Materials (WRM) and Fuels Readiness

Lesson Objective:

The objective of this lesson is for the student to realize the objectives of the WRM Program and Fuels Readiness Program.

Samples of Behavior:

1. Understand the major objectives of the WRM program.
2. Determine the types of WRM and how they are used.
3. Determine how Fuels Readiness is essential to combat readiness.

Study Assignment:

U.S. Department of the Air Force. War Reserve Material Compendium: Executive Summary. Air Force Logistics Management Center, Gunter AFS AL, Spring 1983.

_____. USAF Supply Manual. Volume I, Part One, Chapter 14: "War Reserve Material." Washington: Government Printing Office, 13 June 1983.

_____. USAF Supply Manual. Volume II, Part Two, Chapter 27: "Base Fuels Operating Procedures." Washington: Government Printing Office, 14 June 1982.

Instructional Methodology:

Lecture/Discussion

Lesson 13--Continued

Topics from the 10-5-4 Rule:

WRSK/BLSS (Topic 49)

Standard Air Munitions Package (STAMP) (Topic 45)

War Reserve Material (WRM) Concept (Topic 68)

Standard Tanks, Racks, Adapters, and Pylons
Package (STRAPP) (Topic 46)

USAF War and Mobilization Plan (Topic 38)

Fuels Readiness (Topic 13)

Additional Author Selected Material:

Harvest Bare/Harvest Eagle (Topic 48)

LESSON 14

Subject:

WRM Rating System

Lesson Objective:

The objective of this lesson is to place the student in the role of a supply officer and determine whether the WRM program can support combat readiness.

Samples of Behavior:

Given a WRM rating methodology, determine the M-rating of WRM materials and whether it can support readiness requirements.

Study Assignment:

U.S. Department of the Air Force. USAF Supply Manual. Volume I, Part One, Chapter 14: "War Reserve Materials." Washington: Government Printing Office, 13 June 1983.

Instructional Methodology:

Exercise

LESSON 15

Subject:

Post-Post Procedures

Lesson Objective:

The objective of this lesson is for the student to place supply requests using post-post procedures.

Samples of Behavior:

1. Understand when post-post procedures are used in a combat environment.
2. Understand and complete post-post procedures.

Study Assignment:

U.S. Department of the Air Force. USAF Supply Manual. AFM 67-1, Volume II, Part Two, Chapter 11: "Requisitioning Procedures." Washington: Government Printing Office, 14 June 1982.

Instructional Methodology:

Exercise

Topics from the 10-5-4 Rule:

None

Additional Author Selected Material:

Post-Post Procedures

LESSON 16

Subject:

European Distribution System (EDS)

Lesson Objective:

The objective of this lesson is to educate the student to the purpose of EDS and how it is designed to reduce resupply times in the European theater.

Samples of Behavior:

1. Realize the value of EDS by reducing resupply times in Europe.
2. Realize how EDS enhances Command, Control, Communications, and Logistics (C³L).

Study Assignment:

None

Instructional Methodology:

Lecture by Ronald Chalecki, Deputy Director, European System Program Office, Wright-Patterson AFB OH.

Topics from the 10-5-4 Rule:

European Distribution System (Topic 23)
Command, Control, Communications, and Logistics (C3L)
(Topic 27)

Additional Author Selected Material:

None

LESSON 17

Subject:

Combat Maintenance Policies

Lesson Objective:

The objective of this lesson is for the student to understand the organization and policies of the Maintenance Management System and Combat Maintenance Concepts.

Samples of Behavior:

1. Understand the maintenance organization and policies as described in AFR 66-1.
2. Determine what combat maintenance concepts enhances improved reliability and maintainability of equipment in a wartime scenario.

Study Assignment:

U.S. Department of the Air Force. Maintenance Management Policy. AFR 66-1. Washington: Government Printing Office, 21 April 1983.

Instructional Methodology:

Lecture from Major Carlos M. Talbott, USAF. Instructor, Department of Logistics Management, AFIT/LS, Wright-Patterson AFB OH.

Topics from the 10-5-4 Rule:

Munitions Organizations

Additional Author Selected Material:

Organization and Maintenance Levels
Combat Maintenance Concepts

LESSON 18

Subject:

An Integrated View on Improving Combat Readiness

Lesson Objective:

The objective of this lesson is for the student to understand the Combat-Oriented Maintenance Organization (COMO) and the Centralized Intermediate Logistics Concept (CILC) and their functions in a wartime scenario.

Samples of Behavior:

1. Understand the structure of COMO and how it functions as a decentralized base-level maintenance concept.
2. Understand the advantages of COMO in a wartime scenario.
3. Understand the functions of CILC and compare it to COMO.
4. Understand the advantages of CILC in a wartime scenario.

Study Assignment:

Rand Corporation. An Integrated View on Improved Combat Readiness. Rand report N-1797-AF, February 1982.

Instructional Methodology:

Lecture/Discussion

Topics from the 10-5-4 Rule:

None

Lesson 18--Continued

Additional Author Selected Material:

Decentralized Base Level Maintenance Concepts (COMO)

Centralized Intermediate Logistics Concept (CILC)

LESSON 19

Subject:

Aircraft Battle Damage Repair (ABDR)

Lesson Objective:

The objective of this lesson is to inform the student on the innovative methods of repairing battle-damaged aircraft and the environment the maintenance crews may be forced to operate.

Samples of Behavior:

1. Understand that the purpose of ABDR is to repair aircraft as soon as possible and return them to war-fighting capability.
2. Understand that maintenance organizations exist in which they specialize only in ABDR.

Study Assignment:

None

Instructional Methodology:

Lecture by Donald Voyls, AFWALD/ASD, Wright-Patterson AFB OH.

Topics from the 10-5-4 Rule:

Combat Logistics Support Squadron (CLSS) (Topic 19)

Additional Author Selected Material:

Aircraft Battle Damage Repair (ABDR)

LESSON 20

Subject:

Post-Attack Recovery

Lesson Objective:

The objective of this lesson is to inform the student of steps taken to repair damaged runways, buildings, etc., after an enemy attack.

Samples of Behavior:

1. Determine what steps are taken to repair battle-damaged runways and buildings as soon as possible.
2. Determine what new research and development efforts have been made in repairing battle-damaged runways and buildings.

Study Assignment:

None

Instructional Methodology:

Lecture by Captain Jeff Thomas, Instructor, School of Civil Engineering, AFIT, Wright-Patterson AFB OH.

Topics from the 10-5-4 Rule:

None

Additional Author Selected Material:

Post-Attack Recovery

AD-A134 482

AN EDUCATIONAL METHODOLOGY FOR ENHANCING FAMILIARITY
WITH UNITED STATES A. (U) AIR FORCE INST OF TECH
WRIGHT-PATTERSON AFB OH SCHOOL OF SYST.

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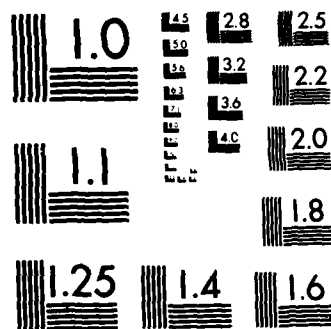
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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

LESSON 21

Subject:

Other Combat Logistics Topics

Lesson Objective:

The objective of this lesson is to cover topics not addressed earlier in previous lessons.

Study Assignment:

None

Instructional Methodology:

Lecture/Discussion

Topics from the 10-5-4 Rule:

Pacer Command (Topic 10)

Wartime Intransit Visibility of Non Unit Resupply
Cargo (Topic 18)

Weapon System Briefings (Topic 25)

Logistics Force Structuring (Topic 36)

Sortie Surge (Topic 43)

Survival, Recovery, and Reconstitution (Topic 44)

Capability Reporting (Topic 50)

Air Base Survivability (Topic 52)

Casualty Reporting (Topic 54)

Logistics Activities in Degraded Communication
(Topic 55)

NATO Wartime Logistics (Topic 59)

Dispersal and Hardening Techniques (Topic 65)

Manpower Sourcing (Topic 79)

WARFIL and WARSKIL (Topic 80)

Individual Mobilization Augmentees (IMAs) (Topic 81)

Additional Author Selected Material:

None

LESSON 22

Subject:

Wartime Scenario

Lesson Objective:

The objective of this lesson is to place the student in a wartime situation in which he must determine how to deploy a unit and its equipment from CONUS to an overseas theater.

Samples of Behavior:

1. Determine the M-rating of the deployed units WRM to determine if it is combat ready.
2. Determine how many planes and trucks it will need to place a unit and its equipment to an overseas theater.
3. Process supply requests through post-post procedures.

Study Assignment:

Review previous classroom material and lectures.

Instructional Methodology:

Exercise

LESSON 23

Subject:

Overview and Test

Lesson Objective:

The objective of this lesson is for the student to review the assignments and discussions of the past week and display this knowledge through written testing procedures.

Instructional Methodology:

Discussion/Test

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BIOGRAPHICAL SKETCHES OF THE AUTHORS

Captain Gurnie H. (Red) Handy, Jr., was commissioned through the Air Force ROTC program at Washburn University, Topeka, Kansas, where he graduated with a Bachelor of Arts Degree in Economics. While at Washburn University, Captain Handy received an Air Force ROTC scholarship and was designated as the Cadet Corps Commander. Before reporting to active duty, Captain Handy acquired several years experience in retail distribution, sales, merchandising, and operations. He was then assigned as Chief, Logistics Plans and Programs Branch at Keesler Air Force Base, Mississippi, where he also performed duty as Installation Mobility Officer. In those capacities, Captain Handy was instrumental in improving mobility work center operations and mobility exercise performance. He held numerous positions on base committees and councils and in March 1981, Keesler Air Force Base selected Captain Handy as Junior Officer of the Quarter. The 3380th Resource Management Group chose him as both a Junior Officer of the Quarter and Junior Officer for the Year, 1981. Captain Handy left Keesler to attend the Air Force Institute of Technology. After receiving a Master of Science Degree in Logistics Management, Captain Handy will be assigned to the Command Mission Assignment and Policy Division, Air Force Logistics Command, Wright-Patterson Air Force Base, Ohio.

Captain Ronald L. McCool attended Oklahoma Christian College, graduating Summa Cum Laude with a Bachelor of Science Degree in Management Science. After attending Officers Training School, he was commissioned in the United States Air Force in 1979 and assigned to McConnell Air Force Base, Kansas. There, he served as the Material Management Officer for the 381st Supply Squadron and as the Munitions Accountable Supply Officer for the 381st Missile Maintenance Squadron. In May 1982, Captain McCool was assigned to attend the Air Force Institute of Technology at Wright-Patterson Air Force Base, Ohio. After receiving his Master of Science Degree in Logistics Management, he will be assigned to the Supply System Division of the Air Force Data Systems Design Center at Gunter Air Force Station, Alabama. Captain McCool has received the Air Force Commendation Medal. He is an active member of the Church of Christ and has served as a deacon of deaf ministries. Captain McCool is married to the former Laura K. Bedgood of Bossier City, Louisiana. They have three children, Daniel, Anna, and Joshua.

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